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THE YEOMAN'S ENGLAND



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NEST AND EGGS OF LESSER WHITETHROAT

THE YEOMAN'S ENGLAND

BY
SIR WILLIAM BEACH THOMAS



LONDON
ALEXANDER MACLEHOSE & CO.
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PREFACE

SOME years ago Mr. George Moore, at that time a stranger to me, wrote a succession of letters urging me to produce a book, "Pastorals," that should consist principally of articles he had enjoyed weekly in the *Observer*. Later he said that he would be glad to write a preface. This volume is in some sort the fulfilment of a promise made both to him and to a number of unknown correspondents. The book is almost as much about England—especially the shires of Norfolk, Devon, Hereford and Hertford—as about natural history in England. I have to thank the *Observer* for the large, and the Literary Supplement of *The Times* for the small part that appeared in their pages. To J. L. G., the editor of the *Observer*, I have owed for a generation at least, a debt of admiration and gratitude that I should like to, but cannot adequately, express.

W. BEACH THOMAS

HIGH TREES
WHEATHAMPSTEAD
January, 1934

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INTRODUCTION

THE months, I think, are more memorable in England than in lesser lands. The English love England and have praised it, as they should ; and yet, for myself, I have sucked most pleasure out of occasional, almost casual, appreciations by strangers. It gave me quite a new view when General Botha, travelling for the first time from Southampton to London, said that he was always expecting to come to a forest, but never did. After all the hedgerow is a bit of a wood and most parks are woodland glades with but a slight difference. One of the daintiest pictures of England I ever read came from the letter of a German balloonist driven by accident of weather across the island. It appeared in some newspaper but to the lasting regret of a whole household whom it delighted, the passage has never been traced. About another more care was taken. It is this :

We came then to the most beautiful country I ever saw. It made me think of Grimm's Fairy Tales. The greenest fields imaginable and no fences, just hedges and an occasional stone wall. . . . Most of the fields were pasture fields or seemed so. They were covered with this intensely green grass. There was never a frame house. The houses were of the softest red brick—I mean the colour—and all pretty, or I should say picturesque, and never an inch wasted.

The passage gives you the sense of looking on a garden or paddock through a small cottage window. Who wrote it ? Obviously no writer. He was an American airman, rough, even husky in one aspect, but one of those who

"needs must love the highest when he sees it," and the gift appears in this and other letters. He was of the school of Marvell, of whom doubtless he had never heard; and his stress was on the green thought in the green shade which England inspires supremely. How the greenness impresses all visitors! They find, too, in green England a sympathy between stony structure and living surface that has no parallel in the old world. The birth of Cotswold houses from the native limestone is like a mammal procreation. You climb a little grassy lump amid the barren gorse on a Cornish highland and discover that you are on the roof of a Saxon cottage. Ploughs have been driven across the high moors of Devon and the low fens of Cambridgeshire. It is a wonder when one little square, as at Wicken, is thought to have kept its virgin state; and because of the close sedges it is one of the few places where "no birds sing," for, in spite of Keats, it is the limitation of the sedge that has chiefly enriched the bird sanctuaries of both Cambridge and Norfolk. This plot indeed is so rare that it has received a concentrated study by natural historians who have labelled every plant and insect within its pale. Other examples of such devastating thoroughness would be hard to find, though the Norfolk Naturalists' Trust are doing the same for the famous sanctuary at Scolt Head.

Now, as it seems to me, a great many people have written memorably about little bits of England, intimately known. No one has written well of England as a whole. Some few in early days attempted both feats. It would not, for example, be easy to find more signal failure than among the dreary alexandrines of Michael Drayton's "*Polyolbion*"; but his style lightens, like a landscape under April sunshine, when he comes to the

part of the country that he knew in his youth and called "the heart of England" !

Fair Arden, thou my Tempé art alone ;
And thou, sweet Anker, art my Helicon.

Shakespeare, in this as in all things, does not abide our question. He is excepted. "This England"—was ever a more affectionate attribute found for it?—is one and indivisible ; but every rural scene of every play takes its inspiration from the patch of country that still survives, though with laboured breathing, on the two sides of the Warwick-Stratford road.

It is perhaps impossible to write about England, or indeed Britain, but especially England, without slurring its infinite variety. Much less can you describe England as if she were a superficial or inanimate thing. The old truistic phrase that God made the country and man made the town contains a false suggestion, for the country of England is essentially man-made. The field, the hedge-row, the farm, the village, the park, the mills, the roads and lanes, even heaths and fen lands and natural features such as rivers and woods, with the climate itself, have been moulded by man. The island and the inhabitants have consented to a mutual relation, and are scarcely separable. Nor are the successive generations. The sheep track became a cart track, became a Roman road, became a motor highway, even in its latest development trailing some faint glory from its past : like the lark's song, it keeps "many a link without a break." Although Mr. Chesterton attributed a more hilarious origin to "the rolling English road," the Romans made roads straighter and longer than the newest highway. The country is so intensely human, even where it breaks here and there into sudden starkness, that the geographer, the

geologist, the physicist, cannot isolate their descriptions and keep truth. What a dull parody of the England we know is Lubbock's *Scenery of England*, an efficient textbook perhaps—"But flame? The bush is bare." Turn from so worthy and deliberate a work to little lyrics that rise to the lips of even men as rough and ignorant as the American pilot to whom England's quality is suddenly revealed.

As I look at shelves containing books about England, the natural historians seem to me to take first place. Their avenue of approach seems peculiarly suitable. A German historian said no one could understand England till he had read Gilbert White's *Selborne*. The passage was introduced to me years ago by that fine German scholar J. L. G. :

The Compleat Angler and *The Natural History of Selborne* are types for a style of literature peculiar to this country. In these classical productions all are introduced into the nursery of English thought, poetry—nay, science itself. These, as the latter draws ultimately its wealth from the produce and culture of the land, on their part receive valuable ideas from a study of nature.

Jefferies, though he ended as a mystic, began as a naturalist; and Hudson, the most successful of all in giving the sense of England, was the best observer of all. White himself has made *Selborne* little more visible than Hudson the South Downs, which he saw through the eyes both of the shepherds and of the wheatears that they trapped. Like the great poet, he tells us more than we knew or felt before even about familiar places. Those who set out in some measure to write a guide-book, however well the work is done, give the opposite impression. They make us think of the little things they have omitted. The richness of England defeats

them. It is too many "fathoms deep in history" to be sketched.

Is Shakespeare's England, White's England, Matthew Arnold's England dead and done for, as some hold? I do not think so, though new worshippers of a new cult have arisen. A desire for the country grows almost in direct ratio with the spread of the town and the multiplication of motor cars. It is true that many are fond of the country as Tom Tulliver was fond of birds—"that is, of throwing stones at them." They leave their litter on the commons, and cultivate the roadside shack and vulgarize the village with noise and speed; but the new vogue for walking, and, indeed, for motoring and cycling, by which the roads are peopled on every spring and summer holiday, the very shacks and bungalows and "ribbon development" are expressions of this cult of the country. The multiplication of sanctuaries, the call for national parks, the very rapid increase in the properties of the National Trust, the excitement over the Town and Country Planning Bill, itself an outcome of the wise zeal of the Council for the Preservation of Rural England, mean that the perception of the value of the English heritage grows more and more conscious. Even the new need to protect wild flowers is evidence of desire to see them in their native haunts, though it is qualified by a sort of wasteful acquisitiveness. There is an exodus from the towns even on Friday evenings made for the sake of penetrating as far as may be into the deep country on the following days. The "sweet o' the year" is the signal both for the worship and for the desecration.

Most perhaps must be superficial worshippers at best; for you cannot know England unless you walk, since its distinction is intimacy and diminutive variety, and unless you talk or at least listen, for its note is human-

ity. The loveliest things are like nests in the hedgerows, screened by leaves, enfolding delicate eggs, sung over by music not the less sweet for being beyond the known laws of melody. Hudson's way, Mr. Blunden's way, Mr. Massingham's way is the only way to give a chance of expressing what England and English mean to the happy countrymen. The key to the maze is theirs, though the rest may titillate our desire to enter it. You cannot chart or (with apologies to the Regional Planners, whose work is entirely beneficent) "schedule" and "zone" the truest glories of England. These are esoteric, and the high priest of that inner circle is usually found among the naturalists, who walk and listen, stand and stare, and nurse a


"Lyric love half angel and half bird
And all a wonder and a wild desire."

If only the architects might be as successful as the naturalists in multiplying sanctuaries, and the people of Chipping Campden or dwellers by the South Downs feel as safe as birds within the two thousand acres of Scolt Head or Hickling Broad!

JANUARY

*Anticipations of Spring—The Fen in Frost—Where Norfolk
is Supreme—East Coast Migrations—After the Hunt.*

I.

 CERTAIN Ovid (who hated the cold) held that the year ought to have been begun in April (like the financial year), and our own makers of doggerel have said most wintry things about "Janiveer, the blackest month of all the year." It is perhaps ; and yet when I open a favourite edition of Gilbert White, to which the editor has appended extracts from the diary of that most observant Norfolk family, the Markhams, I find that they began to see "indications of spring" in November and these multiplied in January. If the Markhams found spring at this date in Norfolk and Gilbert White in Hampshire, what of Cornwall and Devon ? A flying visit from Hertfordshire to Devon was like a jump from one season to the next. The garden provided a bouquet of flowers whose very names, like Rossetti's angelic women, are "sweet symphonies" : Roses, marigolds, snapdragon, anemones, marguerites, pinks, stocks, violets, godetias, scabious, polyanthus, aubrietia, hydrangeas, chrysanthemums, yellow alyssum, pink verbena, geraniums. The hedgerow does not quite rival the garden in variety, but we go out for a short walk by Woollacombe and pick red campion, ragged robin, and wild primroses are bright in it, and kexes, green at the foot, like the garden flowers, prove that last summer survives in the same place and time as next spring.

The neighbourhood of the sea defends most of these precocious and naturally persistent flowers and the rather less optimistic leaf-buds from the risks that face the inlanders ; and in some measure the walls of our houses save such flowers as the veronicas, that bloom to-day and have bloomed for weeks in the gardens of Oxford. They temper both wind and frost. They are always there ; and always the depth of our winter possesses many of the attributes of spring. No week, no day is quite bereft of flowers, and few weeks of song. Our house walls every winter are gay with the naked-flowered jasmine even in the North of England, and always the *Rhododendron precox* flowers in Kew, and the queer catkins of the witch-hazel twist themselves into vernal patterns. Always a few primroses dot the floor even of these Midland spinneys. Always the thrushes sing through the day, and the blackbirds chatter noisily at nightfall though they refrain their songs for two months more. Always, too, the tilths are lined with the pleasant green blades of wheat and oats, ready to dare whatever frost may come.

All England has glimpses of spring in January ; but the Atlantic is the safest assurance that the signs are not unreal or treacherous. That wonderful promontory with the sea close on either side—mimicking the toe of Italy—is like Italy, almost winterless. Summer lives on, and the punctual unhurried bulbs of daffodil and crocus will be anticipated by the delicate annuals that live at the beck and call of the sun. We are apt to think of Cornwall and Devon as the chief beneficiaries of the Atlantic, which pounds upon their granite shores in the disguise of an enemy ; but you may see the fruit of its equable temper in Scotland and most persuasively of all in the south-west of Ireland or the deep little valley of

South Wales in which lurks the great cathedral of St. Davids. I have sat out there in winter under a verberna tree alongside a fuchsia, which in the severer north and east becomes solely herbaceous ; and clean vanishes in winter. It may bring more spring-like gifts than the Mediterranean itself, as, indeed, you may see in the gardens about "The Rock" of Gibraltar, which has the advantage of both, but prefers the West. The flowers enjoy the Atlantic, and the trees (a race peculiarly sensitive to wind) prefer the inland sea.

"The third day comes a frost, a biting frost"—that is chiefly an inland fear ; and it is held over us almost till mid-summer, at any rate till the last of the Icemen (better known as the *Drei Eismänner* of German folklore) is feasted on May 12. And bouquets of flowers cannot hide the actuality of winter or its grimness. I can remember no grimmer incident of a "nature red in tooth and claw" than followed the picking of the bouquet. A thrush, who had been singing his heart out, day after lovely day, flew down to pick up crumbs thrown gratefully from the window. At the same moment a black-backed gull, driven by winter hunger, swooped down to the same lawn, and struck the thrush one deadly blow before help was ready. His spring songs will be heard no more. I thought of another thrush—in Norfolk—which died not grimly, but strangely. He sang daily from a cedar bough that stretched almost to the window of a bedroom where a woman lay dying. The songs gave her intense pleasure till she died late one night. In the morning the thrush was found dead on the lawn below the cedar. Close by, a pair of ravens have established themselves in a grove flourishing in a narrow valley whose sides save even the tallest trees from the salt South-Westers. They are the earliest of our birds,

always excepting the cross-bills, and for all their grimness, gambol with spring madness in mid-January. But winter hunger, as well as spring emotions, prompt them, and, it is feared, though most birds of prey respect the immediate neighbourhood of their nest, that the small birds grow fewer. Though spring is always green, winter is winter still ; and the hunt is up.

2.

The West of England is half-innocent of winter in most years ; and its early spring is a pleasant experience, but most of us like the real winter that generally visits the East even in mild years. My early home lay on the edge of the Fens in days before that unaccountable spell of mildness that continued with very short exception for twenty years from 1896 to 1916. In the last of those great frosts a party of us put on our skates at the edge of a dyke that ends by the railway at Holme station and skated almost without pause till our famous Fen sunsets had paled into a dark mist. And the thirty-mile journey about the broad dykes—the 40 foot, the 16 foot and the old Nene—is worth yearly repetition.

Hereabouts is the one place still found in England where, when the country is graven with frost, skating becomes not a trick, an aimless whirligig, a sporting artifice, but a genuine mode of motion, like sledging or ski-ing in Norway or Switzerland. And upon this region it often happens that the “bearing frost” falls first. The level plain open to the east and north offers no opposition at all to the

Hammer of wind
And graver of frost.

The lines of water are still and shallow ; and the ice thickens in as regular layers as cream on the old flat and open milk-pan ; and, like the cream, it has, in fact, risen to the top because of its superior lightness. In regions where hills, trees and bushes, and irregular banks prevail, ice may be compact of treacheries. You cannot tell where it is thick and even, where thin and fickle. On a river, however near zero the thermometer, the central flow may induce a flaw. None of these dangers lurks on a good Fen dyke with its even banks, even depth, and the stillness of a pond.

Should an active person wish to taste authentic winter, he will find his best table in the Fens. Those wonderful plains, in many parts below sea level, conceal their properest glories from all who do not penetrate to the inner sanctuaries. The dykes themselves are almost as well concealed below their level banks as a tarn tucked snugly in the crevice of a mountain. The raised "droves" have shown the salience of a railway embankment these several hundred years, but they are the sole features open to general gaze, except the successive windmills from which alone here and there the dykes may be inferred. All the other qualities of this strange and strangely beautiful region reveal themselves only to intimates. One pleasant and convenient doorway into the biggest area of Fenland is to be found at the little station of Holme, south of Peterborough. A ditch runs up to the railway, an unremarkable ditch, offering no apparent open-sesame ; but it is broad enough to hold water, to accommodate a skater or two abreast ; and by the time they have turned the first corner they are initiates of a new land. Great water-roads hidden below the surface are drawn this way and that with the geometric efficiency of the streets and avenues of New York, and are as

deeply enveloped in still silence as those in hurried clamour.

You may skate if you please for twenty, thirty, forty miles without repetition ; and, if the frost is hard enough, pass from dyke to river and change from haunts of Hereward, the last of the English, to the old Nene, whose monasteries first taught the tongue we speak. The few people you meet seem subdued to that they work in. There is, for example, an almost ludicrous resemblance between a line of Fen skaters, swinging along in even and evenly-spaced lines, to a formation of duck or geese flying high overhead. The region was, of course, once a Paradise of wild life, like the Marismas of Central Spain. In the records of Crowland Abbey, where the mere lists of wild fowl make the naturalist's mouth water, even the grey wolf finds place. But the taming of the Fens into one of the richest farming plains in the world has not wholly exiled the native spirit of the place. In autumn you are amazed to see snipe rising in quantity before you from potato fields ; and in winter, as you swing along the ringing ice of these secret corridors, open only to the upper air, you may happen upon most of the Crowland birds, even, should so fortunate an accident happen, the bittern. They flight this way and that, some in both diurnal and seasonal migrations : duck of many sorts, green and golden plover, snipe, heron, and northern finches. Beneath the frozen surface still swim fair quantity of the fish that gave Friday food to the Crowland monks. Where an odd tree survives, its roots stand, like mangoes on a fallen tide, clean above the sunk ground, progressively robbed of its swelling moisture. You may come to riversides and little meres where the reeds rustle their sibilant music and disclose the woven and suspended nests of the reed-warblers,

who love the Huntingdonshire Ouse above all other rivers. I have a print of a water-colour picture, painted by an old historian of the Fens, on which you can see where the frost has made ice of his watery paint even before it could be duly spread.

Whatever you do, wait for the sunset ; and, whatever you have seen, it is odds that the sunset will be best remembered. Over the Fens lies what Browning tried to describe as the atmosphere of the Campagna :

An everlasting wash of air,
Rome's ghost since her decease.

These coloured mists are the ghost of Crowland and Ely. They hold and spread and break up the low rays of the sun, as if they were some impalpable prism. Every sunset is a glory. The sun does not set in one isolated, insulated, molten ball, but in a universal haze of its own splendour, spreading east and north and south. The reeds, the feathers of duck fighting overhead are reddened with it ; and I have seen the pollard willows beyond Littleport Mere look like a line of lit torches.

3.

Some parishes breed poets. Yattendon in Berkshire is one and no poet has painted his home's scenery so well as Robert Bridges : Berkshire, especially the Thames-side, looks out from one lyric after another. The poet perhaps is a happy accident ; but the breeding of naturalists in Norfolk is no accident at all. There are more observers (though chiefly of birds) in East Anglia than in any portion of the earth's surface. A good part of the county is now sanctuary ; and the birds have found it out. They are quick to discover their friends.

.

Perhaps the most salient example is to be seen on the American-Canadian border where Mr. Jack Minor one day spread a little food for migrating geese and the news spread like wildfire till he owned the most famous sanctuary in the world (though Hickling is much more wonderful). He was one of the early "ringers"; and had the quaint idea of printing a text on the obverse of the disc attached to the leg of wild geese that he caught up in Ontario. So did the sportsman in the far North learn from the shot goose good morality as well as the wonders of migration.

England is richer in birds and better ordained for sanctuary than Ontario. What an island it is, as full of novelty as Africa in the Latin proverb! And the most various bit of it is Norfolk, partly from its position, partly from the nature of its surface, partly from the encouraging zeal of its inhabitants, reinforced by other naturalists seeking an ideal sanctuary. Its pre-eminence has been asserted with especial emphasis of late. Surpassing rarities have flown in the face even to the surprise of the natives. The last time that I visited one of its sanctuaries I watched the bearded tit feeding the young, saw the bittern on her nest, and heard several boom, watched montagu and marsh harriers take possession of the sky; and walked charmed islets in a broad where every other tuft of grass, every other bunch of reed held the entrancing nests of redshank, or plover, or crested grebe, or duck of a dozen sorts.

Even to look on the county in a map makes the mouth water; Scolt Head, where even butterfly may cross on mysterious migrations in such multitude that they resemble a snowfall. Blakeney Spit, with the seal-haunted sea on one side and on the other a river that changes from a trickle to a lake, from a lake to a trickle

while you watch ; and between the waters this copy of "Bimaris Corinthi" holds up dunes and double shore where, narrow and bare though the peninsula is, the faithful watcher can count a thousand nests, and the terns, those swallows of the sea, mob you with their cries, lest you touch the subtly coloured eggs or young with clumsy foot or marauding hand. As you leave the Spit at low tide, if you go on foot, you come to the Cley marshes, where duck gather like starlings. And this nest of sanctuaries is but a beginning ; for no one knows what a sanctuary is till he has strayed over the 2,000 acres of Hickling Broad, guarded by a Norfolk genius, or sniffed the salt breezes on Bredon waters. And when this is said, there are snug recesses in number, with Alderfen as the perfect picture, that are best left to their exclusive serenity, disturbed—and he is no disturbance—only by a fisherman in a punt, or flat boat, who knows every bird on the mere, and is probably recognised in turn as a resident species.

Some portents have been recorded that extend the marvel rather too far ! An American teal appeared at one time, and some too ardent observers leapt to the conclusion that it had flown the Atlantic—a feat that has been accomplished, perhaps not seldom by the green plover. But the observer becomes more liable to be confused by the escaped alien. In Bedfordshire one is always rubbing one's eyes or denying one's ears—so strange are the "plaguey wild fowl," and indeed eccentric beast that escape from Woburn. Yet stork and flamingo and teal, and they were all found in Norfolk in 1931, are not more strange, though perhaps more startling, than a cormorant perched like a mounted gargoyle on a Fen cathedral, than flocks of mute and whooper swans crackling their heavy wings overhead,

than a bevy of quail rising almost at your feet on a Norfolk stubble or than half-a-dozen bittern booming their welcome to spring with the robustious gusto of a March wind.

All the wonders that we have individually seen or heard in this paradise of birds are collected into the annual record of the committee (most of them "resident species") of the Norfolk and Norwich Naturalists' Society. The dozen pages have all the flavour of extracts from the thirteenth-century records of the monks of Crowland Abbey, when wolves were numbered among East Anglian mammals. And, indeed, birds that Hereward knew and the Dutch engineers banished begin to return. Nothing, I think, more astonished the common-or-garden observer than the number of the huge and most visible sheld-duck, that nest—perhaps a hundred pairs—in and about Cley; but a more salient bird, the spoonbill, queer in structure and, like the duck, singularly visible from its whiteness, is to be found by the curious seeker; and we have reasonable hope that it may soon regularly nest in England, along with ruffs and quail and bittern and bearded tit and crossbill. The protected breeding grounds now cover an immense area of congenial ground, where nests are saved from the worst enemy of ground-nesting birds, the grey rat; and where, too, dense growths are cleared or thinned for ideal nesting and feeding haunts; and the neighbourhood is on a famous line of migration. It is strange in this way—that you may see migrant birds, sometimes in flocks, on winter days. The movements of the wading birds and of the duck tribes resemble in quantity the more purposeful and far-reaching migrations of autumn and spring. Duck of many sorts may descend in such quantity as of old made the mouth water of a twelfth-

and their movements still interest the sportsman. But the naturalist prevails ; and we seem to be assured (for many of these sanctuaries are Trusts "in perpetuity") that the population of England-loving birds will steadily increase. The bittern, it is now decided, is so well established that no further bulletin will be issued. The crossbill steadily increases. The gorgeous marsh and montagu harriers are at least as safe as eagles in the Selkirks, much safer than golden eagles in North Scotland. If only sanctuaries were as wide and well managed in the South, we should probably claim the golden oriole and crested hoopoe as English possessions.

4.

Suffolk shares with Norfolk its attractions for the winter observer. When snow falls or the wind drives cold down the East Coast, the population shifts only less completely than in spring and autumn. Those two regular migrations, especially the vernal, are straight evidence of the tide of life rising in response to the dictates of sheer astronomy. The birds are compelled by a change in their very being, which is felt whether they will or no, or whatever the temporary accidents of weather and climate. The tide is not more faithfully obedient to the moon than the birds to the higher sun. The flow of sap that was at the neap approaches its flood ; and turns the head of the bird north and west as the magnet veers to the pole. When we think of migration most of us have these great concerted seasonal movements in mind. The flood of life moves towards the north in April, towards the south in October, in acknowledgment of a cosmic force.

These winter shiftings of population are of another

sort. They are rather a compulsory rout than an eager journey. Snow and frost and storm drive the crowds before them, sometimes helter-skelter, like dead leaves in a gale ; and the casualties may be many. The B.B.C. one such day proclaimed the discovery of a rare—and giant—squid driven on to the Yorkshire coast by stress of weather. It might record almost every winter utterly astonishing discoveries of bird victims thrown up by the sea on the beach. One student whose discoveries are recorded by Mr. Ticehurst in his history of the Birds of Suffolk found on a stretch of beach which he regularly patrolled about two score of different species—birds almost unknown to the district. The list included the great Northern diver as well the red-throated and rarer black-throated. All had fallen by the wayside in a frantic retreat.

You must live by the sea to observe this flight, for it consists principally of duck and water birds and swimming birds ; and though it is most general and more easily observed on the East Coast, western and even north-looking coasts may be scenes of strange and sudden winter assemblies. One very cold winter day, accompanied by hard driving snow, the broad sand dunes between Calais and Boulogne harboured hundreds of woodcock, stopped at the sea's edge by the sudden winter while making their natural winter migration. I have seen like congregations of this ungregarious bird on the wild and glorious marshes of Pembrokeshire. The seaside, too, is more open than the inland, and seldom quite barred and locked and beaten by the "hammer of wind and graver of frost." The snipe wholly leave the inland fens and marshes for the western seas, and appear in wisps on western marshes, while eastern observers mark the sudden immigration of geese and

swan and redwing and smew, rare gulls and all kinds of duck.

The birds brought to our inland homesteads by pursuing winter are less large and exciting, though their numbers may be immense. The poor redwing, those delicate and lovely northern thrushes, suffer most. Not once but a score of times I have found their starved and frozen bodies in midland grassfields. The fieldfare crowded on holly and thorns are hardier and more conspicuous, both in guise and voice. Their winter chatter is like no other sound. The northern finches, especially brambling, rise in flocks beside the greenfinch and chaffinch, who are accompanied if it is very cold by the siskin; and in 1932 winter seems to have multiplied in counties round about London the powerful and talkative hawfinch. Cousins appear to draw together in times of stress. We have sometimes seen in the south green plover, in great congregations, joined by the golden plover; and it is a liberal education in the wonder of flight to watch the one tumble and waver about the sky, while the other, one of the quickest fliers in the list, spirals to a high circle with the direct speed of an airplane.

To the stay-at-home householder who does not go abroad to find the bramblings on the stubbles or the fieldfares by the quick hedges, the migration that is most plain is parochial and of mammals. Perhaps because it was belated and sudden, one mid-January bout of cold drove, or so it seemed, every mouse and rat to the shelter of house or stable. In and about our cottage-home the rats signalled the arrival of winter by dragging a number of potatoes into a small tub that lay on its side, and behind this frieze of food composed a hay and straw nest, thus neatly combining the securities of food and shelter. The mice preferred house to shed, and Cox's orange

pippin to potato and indeed to Bramley's seedling. They have daily climbed across trays of "cookers" and some eaters to gnaw the small group of Cox's put for safety at the back and in the topmost tray. What compliments this apple has received! The ants swarm up the trunk to nibble at the stalks; and tits peck at the tawny cheeks a month before the malic acid has turned to sugar.

We associate duck and snipe *et hoc genus omne* with the wilder places, with dunes and marshes and lochs. I have been to seek them in all parts of the world: in the west coast of Ireland and Scotland, in Canada and Australia; but it remains that the greatest flock of duck I have ever seen and the biggest wisps of snipe have been on the edge of London, almost within London itself. Walking the valley of the Wey between Guildford and Woking early one morning two of us flushed a wisp of at least sixty snipe—my companion put them at eighty—and though they flew away scatheless, we shot six couple of stragglers before breakfast time.

Much nearer London on a great water reservoir in Essex many score of duck of five or six sorts were shot one hard winter at the request of the urban authority. The analysts had found some contamination of the water and it was attributed to the number of duck who flighted to the reservoir for their nightly roost from the sewage farms where they had been feeding. The sportsmen were invited under the strictest secrecy, lest their object should cause alarm; and enjoyed some of the best shooting within their experience.

The biggest flocks that I have seen anywhere were on the great Staines reservoir. The banks that hold up the water are covered with grass and bushes, mostly the hideous clipped laurel, and all heavily railed. If you have the key of the enclosure you have a perfect ambush;

may climb up the steep bank at any point where you have marked the birds and watch them at your leisure.

Some birds so enjoy loneliness that they quite avoid populous places, but many, once thought peculiarly wild, begin to show a preference for the town over the country. Indeed, we have reached the date when town and suburb are the most effectual of sanctuaries for winter residence. It is when nesting days come that the pure country wins, that the duck return to their marshes and the gulls return to their cliffs or—if they are black-headed—to their wet, grassy wastes. This discovery of the attraction of the town is quite new for many species, as anyone may tell who has visited for successive years the great reservoirs and Thames-side resorts of London. One of the best is Staines, which has this advantage (for those who have not the key enclosures) that there is a public walk across the middle, whence anyone who pleases may at any hour play the sedulous observer, often resting his telescope, if he will, on the forbidding railings.

The neat little black-headed gull (so called because it has a white-head in winter and a brown-head in the breeding season!) found out the charms of London—that is its generous supply of food—in the hard winters of 1881 and 1895, when simultaneously the lower reaches of the Thames were more carefully protected by the Essex County Council, happy in the membership of some eager naturalists. The breed has been multiplying steadily since. Quite a few years ago you might watch the London gulls day after day and not see a single member of any other species. Then there began to appear a few herring gulls, who are the most numerous of all our British gulls. They monopolise a great many seaside places only less completely than the black-headed occupy London. One week I was astonished to see on

a London lake several common gulls (so-called, as a schoolmaster used to say of common sense, because they are so uncommon!). These gulls have, I believe, become regular visitors, only within the last four or five years—at any rate in any quantity—though I have no very precise information on the subject. For myself, I saw this winter, for the first time in my life, a common gull, a herring gull, and a lesser black-headed gull, all within the neighbourhood of London, much about the same time. It may, perhaps, be taken as an accepted fact that these four species have all discovered London and become regular visitors. Probably their numbers will continue to increase. In the case of the last three, this discovery is comparatively new. They illustrate the rather surprising truth, that an affection for suburbs is invading the race of birds, especially some of those which we have sometimes looked upon as spirits of the wild places.

Even among country people by the seaside, where gulls are under daily observation, the species are often barely distinguished, and most unscientifically named. I went last year with a resident to watch “the grey gull’s nursery,” as he said. We lay on the cliff’s edge in North Devon with our noses in bunches of thrift, and watched at different nurseries kittiwake and herring gulls tending their young below us. But the title seemed quite unknown in the locality. Happily, identification is much assisted for the less precisely informed observer by the size of the bird. The black-headed gulls are sixteen inches long, the common gulls eighteen, and the herring gulls twenty-four. Most sorts possess a “special peculiarity”—in the phrase demanded for a human passport—and the common gull, which is the least well-known, is the proud possessor of legs of a curious



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yellow-green colour, very different from the flesh-coloured legs of the herring gull.

Gulls and ducks are not the only sorts of birds that delight the eye round about London. A stranger and a rarer bird than any of these is now common. It is the greater-crested grebe, once almost annihilated by those who desired to possess its plumage. I must suppose that its skill in subaqueous foraging perhaps accounts for the delightful increase. They sail about these waters like swans, the head carried proudly on a straight neck. The sight of them, if they were the only pebbles on the beach, would be worth a repeated pilgrimage. They impress the eye and imagination much as that other great-necked water-bird, the loon, impressed Thoreau when he was inhabiting his proud hovel by Walden. Pairs have made attempts to breed on reservoirs least well-fitted for the purpose, but the want of cover has exposed them to that harpy, the carrion crow, which also is encouraged by suburban conditions. What a rich addition it would make to our sanctuaries if someone would provide a suitable breeding home for water birds in the immediate neighbourhood of some of these London lakes! A hardly less attractive bird now quite common at Staines and at Virginia Water, is the goosander, which can almost rival the grebe in its skill in pursuing fish. He very closely resembles in habit the merganser, which derives its name from its diving propensities. You may say of it as Horace said of Rome :

“*Merges profundo, pulchrior evenit.*”

For the reservoirs are reservoirs of food, especially for birds that can dive. There is nothing thereabouts to attract those great vegetarians the wild geese, but the greater grebe and goosander have everything they

can desire. The commonest form of food seems to be a species of freshwater mussel, which, in spite of the divers, multiplies as rapidly as the mussels on the sharp rocks by Boulogne. Every few years its excessive numbers tend to block the vast pipes that join two portions of the Staines reservoir. It is one of the standard mysteries that any considerable patch of water, however clean at first, will become populous with life within the space of a few years. The reservoirs are homes of coarse fish as well as of molluscs. Some have been deliberately introduced, but there seems to be "the way of a fish" in the air as well as of an eagle; and the genius of our Solomons fails to trace the origin of them all. As for the Thames so much food floats down its waters that rooks, carrion crows, and starlings have all caught the gulls' trick of picking flotsam off the surface. In spite of the handicap of shorter wings, they achieve this unnatural manoeuvre without wetting a feather, though they look awkward enough beside those autocrats to the manner born, the gulls or their superiors the sea-swallows or terns.

5.

It is a miserable confession that I have hunted much more on foot than on horseback, since the days when a pony was a big enough mount; and since in such circumstances the sport is singularly evanescent I have enjoyed nothing in it so much as its absence. The gorse or grove or wood was busy and noisy with horse and hound and horn. Even the birds were noisy, tin-voiced cock-pheasants and angry jays.

Scent lies in layers, strong and satisfying, is caught in the damp hollows, and clings to the beady grass-blades. A horse moving at a hand-canter down the ride of a wood,

seems to enjoy the shrapnel of mud and water that explodes from his hooves ; and your picture of such a ride is a half-mossy, bare muddy corridor dibbled with deep hoof-prints, each holding a full complement of thickened water. "The hunt is up !" The wood rings with the music of the pack. Pheasant and pigeon have rattled off in alarm long before the furtive fox, alert and unfrightened, slips without a sound down a converging hedgerow, where presently the pack shouted in chorus and the horses clattered in their wake.

But wait in the wood for a while after the hunt has vanished for the hour when

The tumult and the shouting dies ;
The captains and the kings depart.

The ride soon becomes, not the corridor of the chase, but the cloister of a sanctuary. The pigeons and pheasants return ; and, indeed, an unhunted fox or two, one of them slinking down the very hedgerow where the hunted fox escaped. The ride, just now noisy with hooves, becomes the cloister of a sanctuary. Rabbits and pheasants both step out into the middle of it. How green now look the tree-like mosses. How red the shoots of the dogwood ; how orange the few relic berries of spindle on either side. All is still and warm and peaceful. A squirrel skips out of his drey. He feels it is no time for hibernation, and it is better to feed than sleep. Two of the returned pigeons, it seems, are a pair, and the male gives a little short flight from the oak, suggestive of his springtime antic when the wings will meet with a clap behind his back. The woodman, who had joined the hunt, comes back to his faggots, as the fox to his earth ; and in the clearing all about him the primroses have blossomed freely as in March. He happens

to be an observer of little things, more like Hardy's woodlander than woodlanders usually are. He will take a little bunch home to his cottage when his last bit of coppice is faggotted. He found on his way to the wood that the partridges were pairing. He has noticed how very green are the leaves of a honeysuckle that had patterned with a spiral groove a certain ash sapling that he will carry off for manufacture into a walking-stick.

In Cheshire some years ago a woodlander who had a personal dislike of foxhunters led one of his friends into the wood which the hunt, to their chagrin, had drawn blank. He guided us to a slanting tree with clumps of ivy in its upper part and taking up a stone threw it with astonishing pace and accuracy into one of the tods, saying "Come out of that!" At once but with unabashed deliberation a fox showed his muzzle—you might have thought he was stretching and yawning after a long dose of sleep—and began to descend the trunk. He looked us straight in the face, as villains do, and leaping lightly off the trunk when close to the ground slipped into the underwood.

Foxes are less prone to tree-climbing than the lesser vermin. Stoats, or so my experience goes, are particularly fond of the thorn tree, where perhaps they catch the roosting bird. How well I remember crossing a field decorated with a few such thorns and seeing in the twilight a wholly queer black and brown and white object wavering its way toward me. It proved to be a stoat with a blackbird in its mouth; and though stoats are credited with mesmeric feats, are said to turn Catherine wheels for the attraction of curious birds, I think it is more likely that this stoat had caught a roosting bird or a bird so occupied with scraping up dead leaves that its wariness had deserted it.

Almost all the vermin have the power to keep their head. My spaniel one day drove a weasel up a holly tree of small dimensions and I went close. The little creature clung to the trunk with its head fitted into the niche of a bough, and we looked at one another for the space of a minute or so. I could have laughed for the exactness of the likeness of the tiny muzzle to a fox's. They seemed to differ only in size. The weasel showed no fear even when I put out my stick and with the top began to lift him up. Then at last he ran to the end of a bough, dropped off, clung for a moment to the top of a lower bough and ran off with a loud shrill squeak, the first sign of alarm or wrath.

What climbers they are ! In this place in Surrey is a house built in the days of Henry VIII when for the first time fortifications were held needless. The red brick and terra-cotta have stood well the attrition of time, but are much roughened and dinted. As I came out from the garden door a weasel appeared from a grating and ran up an espalier rose trained against the wall. Finding himself still within the giant's reach he continued up the wall beyond the protection of the rose, and ran perhaps half the height of the house. Here he slipped and for a moment clung to the wall only by one claw. The pause was to take breath. Presently he ran to the top as easily almost as a fly on a pane and disappeared over the gutter below the roof.

We kill too many vermin. The record of a keeper of about the year 1840 was shown me in which he killed on an average many more stoats than rats ; and is not the plague of rats due in fact to the war on stoats, and perhaps weasels ? The weasels of course do not kill rats but the rats do not enjoy their neighbourhood.

The hunt perhaps preserves the race of foxes, though they

are no longer sacrosanct. Almost the greatest and certainly the best known of our country landlords ordains one day in every year for a great fox-shoot ; but however this may be, hunting cannot be made to stand on humanitarian reasons. Mr. A. P. Herbert has made that plain enough. Its picturesque quality is another thing. The meets are held as often as not by historic country houses, such as Palmerston's old home at Brocket or Tewin Water. The scene might have been staged by an artist. Into the midst of the hounds, which have always a peculiar skill in grouping themselves into lively patterns, children and some of their elders found their way, picking out this hound and that, and being picked out in turn. They sought and easily found the hounds they had "walked" as puppies : "Virtue" and "Random" and "Rollicker," who at once and with zeal recognised their nurses ; for the foxhound if singularly savage in some regards, is also, on occasion, as sentimental as a spaniel. One "Frolic" accepts with gracious enjoyment the embraces of a little Red Riding Hood, who half-squats on the gravel among the hounds and feet of the horses oblivious of all but her own pup, now indeed a monstrous hound, cat-footed, strong in bone, with some suggestion of the greater bloodhound in the sagacious head.

The house lies amongst its spacious lawns in a scoop of the valley that allows the brook to become almost a lake. One slope is crowned with immense elms, the other disappears into a grove, into a wood of Spanish chestnuts and oak, and a medley of dark trees. As the huntsman and master turned to move up this slope the hounds forgot their little mistresses. They knew well that the hunt was up. They would escape from silly embraces and dawdling for the last of the stirrup-cups

to rouse their enemy from their lair, and to raise the music of the pack. Some of those who stayed by the house and lake and saw the dark wood swallow horse and hound and hunt, even to the eager crowd of holiday pedestrians, felt perhaps like the monks of the Grande Chartreuse.

But where the road runs near the stream,
Oft through the woods they catch a glance
Of passing troops in the sun's beam—
Pennon and plume and flashing lance !
Forth to the world these soldiers fare,
To life, to cities and to war !

For soon, as to the monks, "faint bugle notes from far are borne," and they pause awhile to listen. To the horn succeeds the mellow music of the pack, very thin and far ; but against all expectation, growing in volume ; and they stay at the spaces under the chestnut almost expectantly. The aged trunks are like the gargoyles of a cathedral, and the oddest, most hilarious caricatures of man and beast assemble in the brown shadows of the open grave. The attraction of the scene keeps them just long enough. What is that movement ? What that form ? A cunning vixen has slipped round the unleashed pack, has doubled back over the very track of hound and horse and tramping crowd. Those who had never seen a fox saw at their first experience a vixen at her best. When she met the relic line of walkers, the group of loiterers, she did not alter her gait, but swung carelessly past them, seemed for a moment to intend to cross the very place of the meet, but turned, made her way into the yard of the stables and through it to the lawns and stream of the garden. You could diagnose no fear. All was quiet calculation even to the muddling of her traitrous scent. So enthralled were the watchers that

never a "view halloo" betrayed her passage till she was out of sight and over the river.

Such calmness and quick deliberation mark many of the vermin. The deliberation of a stoat, though it can move like a flash, expresses entire control of its nerve. It looks before it leaps, and before it runs. I have watched one that after it saw me stood up almost like a squirrel begging for nuts, then slipped behind a tree trunk and clean vanished by some conjuror's trick of pure intelligence. Some praisers of the old time, like Mr. Wilfrid Blunt, may prefer the hunting of the hare—which is the older sport—to the hunting of the fox, but they reckon, perhaps, without the courage of the one, expressed in his watchful forward gaze, and the fears of the other, declared in the backward-glances of the soft brown eyes.



FEBRUARY

*A Closer Season—A Prolific World—Plum and Barley—
Secrets of Flight—The Thirsty Bee—A London Diver*

I.

MANY dates are emphasised as in some sort the first of spring. The 10th of December, after which you may no longer shoot the red grouse, is the earliest. The 1st or 2nd of February is another. Valentine's Day is a third, and, of course, March 25 ; and we have as good excuse for dating spring from the armistice, or close season, as from the solstice. Birds are in pairs. This year (1932) spring is early and singularly emphatic. On February 1 the folk journeying to church stopped to wonder at the queer phenomenon of a fresh blackbird's egg lying broken on the churchyard path. Doubtless this eager anticipator of spring suffered from unequal inspirations ; she desired a family, but had built no cradle. It is the earliest blackbird's egg in my calendar by some three weeks. Many birds are in song : robin, thrush, missel-thrush, wren, dunnoek, and the blue tits, piping, bubbling, warbling, whistling, and whispering. Green and gold tassels of the nuts swing and gleam in the hazel hedges. The unseen and still prisoned Danaë is already sought. The golden aconite with the green ruff round its neck already makes " a sunshine in a shady place," and there are other " angel faces " in the primrose spinneys. The ravens in Devon in another year were tumbling in fantastic gambols in the sky during the second week of January. You may hear the larks at

heaven's gate before sunrise ; and many mammals are already heavy with young.

It is a happy tribute to our age that nearly all our birds now have the benefit of a so-called close or forbidden season, an armistice, when arms stand still, especially the No. 12 double-barrelled ejector ; but the game birds, for no very good reason, anticipate the rest by a fortnight or so ; and the mere list of the aristocrats suggests the wisdom of making a logical and democratic change. I should like to see the close time for partridges increased by a fortnight at both ends, for the better protection of the " squeakers " at the beginning of September and the paired birds at the end of January. The birds specially protected, in the older lists, against trespassers as well as sportsmen were in two lists. The first contained pheasants, partridges, grouse, heath or moor game, and bustards. The subsidiary and incidental list appended the names of " woodcocks, snipes, quails, and landrails." Incidentally, the inclusion of bustards, quails, and landrails is as old-fashioned as appending an " s " for the plural of woodcock and snipe.

Watching animals, even in the cold spell, I was struck as never before with the long preparation they make for nesting. Birds, as well as foxes, otters, and hares, are not unlike plants in their attitude towards the season. To quote Francis Thompson at his best :

As sap foretastes the spring,
As Earth ere blossoming,
Thrills
With far daffodils ;

so the pairs of birds meet and mate and prepare for the cardinal event of spring a very long time before the nest is begun. The tits are daily in and out of certain holes

and crevices and nesting boxes, breaking out now and again, especially in the evening, into their merry little sizzle, suggesting a kettle on the boil. They have paired as certainly, though not quite so obviously, as the partridges or rooks. Their spring has come. Wordsworth was technically wrong when he boasted on behalf of his celandine that it comes :

In the time before the thrush
Has a care about her nest.

The thrush *thinks*, at any rate, about building as early as the celandine about flowering. Incidentally, as I think Mr. Boulger noted, the flower was the cause of a greater error. The unbotanical sculptor carved on Wordsworth's tomb, not the lesser celandine, but the poppy (probably a stray from the garden, though it becomes common) that we foolishly call the greater celandine.

When we consider this long preparation for spring among our mammals as well as our birds, we wonder more and more at the oddity of our close seasons. We are allowed to hunt hares, otters, and, indeed, foxes when they are already heavy with young. I have seen good sizeable leverets on February 21. We are allowed to shoot paired partridges. Men with guns are allowed to wander about and shoot among paired and nesting-birds, and we postpone the general armistice till February is half over. Happily, in regard to our small birds, such dates are of small importance. Few people nowadays destroy them or molest them ; but there remains good reason for a general revisal and extension of the close season.

No law can quite fit any season. The variety of this lovely island informs also the love affairs of the mammals. Partridges pair in the valleys, while others not only

remain in coveys, but even pack on northern highlands. The lands are the opposite of the waters in times and seasons, at least in certain regards. We may fish here and there from the very day when we are forbidden to shoot ; but it is forgotten that the lands, like the waters, vary in seasonableness. As there are early rivers and late rivers, so there are early fields and late fields. For the rivers we can make local close seasons, but this is scarcely possible for the land, and the only way to be safe is to arrange the close season to suit the earliest places. Candlemas is better than St. Valentine ; and Candlemas itself is over late.

Perhaps the mammals suffer most. Foxes, otters, and hares breed in due season. We know with sound exactitude when the females will be heavy with young. It is strange and a pity that in England, which leads the world in kindness to animals and in the ethics, or, at any rate, the etiquette, of sport, we should disregard these dates as much as we do. Hares are fair game for a much longer period than on the continent—in Holland for example. We habitually hunt otters in the very height of the breeding season, and some M.F.H.'s are proud of killing "a May fox."

2.

Many creatures pay no regard to the almanac. There is no month in the year when some of our wild animals are not bringing forth young. So much we know from the records, but it comes as a surprise even to the most rural zoologist when he finds examples of the continuance of breeding into and through the winter months. For example :

It became necessary in December last to reduce the

tale of rabbits in the neighbourhood of a plantation of young trees, to which the birth of the rabbit is ruin. Out of one "bury" were bolted, to the general surprise, five rabbits, not more than a few weeks old. Why should it be that fox, badger, hare, and otter are in touch with the seasons, while rabbit, rat, vole (especially the field vole) and mouse deny winter, extend autumn, and anticipate spring? That most delightful little creature, the long-tailed field-mouse, often called the wood-mouse (and the brown-backed vole) will produce two families a month for a good many months of the year! You can never be sure when you will not find young rabbits. And the mice and the rabbits breed in considerable safety. They have holes which keep them safe from most enemies. What a charming combination of nest and cave is the nursery of the wood-mouse; and for the most part it is well concealed. If they did not have a preference for cornstooks, whose removal lays the home open to many peering eyes, especially of owl and hawk, the number of young that would reach maturity within a year would confound the arithmetic of the statisticians and decimate the crops of the farmer.

On the subject of holes, a good many animals would like to have holes, but do not make them. In a wood, not many miles from where these Christmas rabbits were bolted, more than a dozen little owls were turned out of rabbit holes during a day's ferreting. I have seen a retriever pull a brown owl out of the mouth of a bury (and bring it to hand without hurting it); and last winter I found a hedgehog hibernating in a burrow. If you want to find a wheatear's nest in the spring the most likely place—at any rate on the Berkshire downs—is an old rabbit's burrow. However, both hibernators and the wheatear prefer not the burrow that is a thoroughfare,

but the short shallower hole dug for a nursery. The reason, doubtless, is that these are deserted when once the young can look after themselves.

The rabbit and indeed the wood-mouse ensure the aggressive survival of their race, not only by the number of their progeny. The mother rabbit is incredibly successful in concealing the nursery. Though she digs a special blind-alley hole several feet in length, you will seldom see any sign whatever of the excavated earth; and sometimes the entrance of the nursery is concealed with as great care as the dabchick expends on the covering of her eggs. And how snug and warm the babies lie in the lined cradle! Dogs, cats, foxes, stoats, and weasels will, on occasion, harry the home as ruthlessly as the coulter of Burns' plough destroyed the mouse's nest, but the catastrophe is singularly rare, and there seems to be some reason to think that the scent of the animal is altered, or in part suspended during this season. The doe rabbit is especially careful to avoid the detection of the buck, but she, or he, has not gone quite as far as the wood-mouse. In their case doe and buck each make nests and holes different in pattern as well as in place.

How closely the rabbit resembles the hare in appearance and how little in habit, that even at the hare's own game the rabbit is the more skilful. Both enjoy lying out in "forms" (which incidentally have often a close resemblance to the Australian bower-bird's tunnel). The hare's form is frequently open and cold. The skilled and accustomed eye can see her quite a long way off. The rabbit lies snuglier in grass or what it may be so carefully wrapped round her, that you may almost tread on her before seeing her. Doubtless the hare sets chief reliance on speed and evasion and the rabbit on concealment. The methods of protection are, therefore,

different ; but again, even in speed, the rabbit excels if the distance is no more than what American athletes call a dash. Its power of acceleration is scarcely credible.

Only when the young arrive is the hare as clever as the rabbit. A comparison of the rarity and smallness of the litter with the rapid multiplication of the hare, where conditions are favourable, reveals her marvellous success in preservation. So successful is she that even to-day, though the hare is to be found in fair quantity in almost every rural parish, country people disagree (sometimes violently) on so simple a question as the usual size of the litter. The truth seems to be that she does not put all her eggs in one basket, that she hides the young in different places. That you seldom find more than one or two leverets together is no indication that they are the whole of the offspring. Indeed the standard litter is four or five. An afforester of my acquaintance who thought it his duty to kill off the hares no matter what the date, never found fewer than four. Yet even if there are often five at a birth, the number is very small in relation to the number of survivors.

3.

A queer little discovery in nature lore is claimed by the votaries of a comparatively new branch of science, and its nature may concern every field or garden observer. It seems that if you sow barley at the date when either the blackthorn or the purple plum-tree comes into flower, then your barley will be free from its worst insect enemy ! Now, the ornamental prunus is amongst the most popular of all recent additions to the garden in town or country. We might ask : Why journey to the South of France or Majorca to see the almonds flourish,

when every suburb of every British town is alight with early blooms of exotic *prunus* or *pyrus*? At any rate, we shall enjoy these early flowers more now we are assured that one of them, at any rate, is useful as well as ornamental, and that it connects our pleasure garden, however mysteriously, with the farm!

The meaning of this very odd association between the prune-tree and the barley seed is that certain weather and climate produce certain similar effects on different plants, and, indeed, animals. If the *prunus* flowers late in that year barley is better sown late. It may be that we ought to prune our tea-roses on the day that we hear the first cuckoo, or sow our sweet peas on the day the first frogs' spawn is laid; or plant our forest trees on the day the fieldfares appear! All this sounds fantastic enough; but there is, nevertheless, a developing science that was long ago christened phenology. Its job is to make comparative tables of appearances, of the dates when plants leaf and flower, and when birds appear and sing and nest, and when the weather does this thing or that at such or such an altitude, latitude or longitude in such and such a country. This little and amusing branch of science, which, in a modest way, has been practised by country gentlemen, such as Gilbert White or Mars-ham, for several hundred years, has recently received a new backing even in Government offices, and is attracting quite a large number of countrymen. The Ministry of Agriculture has joined hands with the meteorologists, who had already a list of the appearances that all of us are asked to observe in a precise and scientific spirit.

Part of the fun of observation is, of course, its freedom; but it is not unamusing to take some heed of the official list; and this coming year many hundreds of records

are expected to be received and collated. Anyone may write to the Royal Meteorological Office at 49 Cromwell Road for a schedule of the phenomena under especial patronage. Field observers, including school children, may thus, it is hoped, in the sequel benefit husbandry as well as biological science in general.

The special lists, of which the first draft was formed nearly a generation ago, are curious and partial, and open to criticism. Among flowers we are asked to note the first blooms of

Hazel	White oxeye
Coltsfoot	Dog rose
Anemone	Black knapweed
Blackthorn	Harebell
Hedge garlic	Greater bindweed
Horse chestnut	Devil's bit scabious
Hawthorn	Ivy

Among birds we are asked to note the first appearance of most summer visitors, but especially the swallow, cuckoo, and spotted flycatcher, and the last appearance of the swallow. Among insects the date of the first appearance of the small white butterfly, the orange tip, the meadow-brown, bumble bee and queen wasp, and of the honey bee on a flower is specifically sought.

So far, so good ; and the list is doubtless made with an eye to ease of observation : the plants, birds and insects are those we all have at our doors. Yet the lists have certain sins both of omission and commission, as the preachers say, if they are to be of special use to cultivators. My own view is that the most likely guides are the hibernating mammals. A queen wasp will appear at any date when the sun shines with unusual heat : one wasp does not make spring. The frog and toad, on the other hand, and indeed the dormouse and the snail, are

sensitive only to more integral influences. If there is an event that more sharply characterises the seasons than another, it is the width of interval that separates the emergence of the frog and the toad. And it is in this corner of the field of observation that the least is known. The sum of knowledge of spring migrants is precise and extensive. We know as much as is likely to be useful, if we collate it. About many of the animals, rodents, batrachians and the rest the sum of knowledge is both small and unscientific.

Where comparative observation is needed is on the effect of latitude on date of appearance. In this quaint country of ours parts of the north often anticipate the south, and the cold east coast carries plum blossom while the buds are still tight in the warm west. The partridges pair in the valleys earlier than on the hill-tops; but, on the other hand, the upland flowers will on occasion precede the valley flowers and outlast them. Can we discover a geographical secret of earliness as they have in America, where these wise men the phenologists are strong, at least in theory?

4.

If he steams homewards from the South, skirting Spain and Portugal on a course that then makes a bow-string of the Bay of Biscay, an Englishman may mark one sure sign of the approach of his native latitude. The gulls that accompany the ship's journey, like attendant sprites, change colour. Five hundred knots ago almost all showed black over the wings, varied only by a sort of picotee edge of white. These Black-backs, like the lesser albatross that they recall, though their skill is not quite so incredible, do not diminish when the land is out

of sight. They are as many as ever at sunset. What are fifty or sixty miles to them? Do they need to roost at all? or are they able (as some believe, not without cause, of the albatross) to rest upon the dark air as upon a couch, and lie in buoyant comfort on the cushion of the opposing wind?

Nevertheless, you shake them off somewhere in the Bay, and when morning breaks over Ushant you are aware that the present host of gulls carries a different uniform; the backs of body and wing are a lively grey, with no more than a beauty spot of black at the tip of the wing. We are among the herring gulls, heavy and big birds, as the tribe goes, but of singular beauty, as white as the west-wind clouds of April, as brightly grey as the flank of a fish, with beaks as yellow as a Lent lily. But we forget their other beauties in their flight. No man, woman, or child ever sailed who could forbear to watch its curious grace or wonder at its easy impossibilities. It needs the power of a herd of horses to drive the ship through the fronting wind, while the gulls, of whatever species, swim against it without a movement; and, more than this, again and again you see the gliding bird overtake the bird that is using the oarage of its wings with apparent energy. It is perhaps something more than a metaphor to say the sail is outpacing the oar.

Like every other traveller I have stared at them hour after hour after hour—especially at the lesser albatross in the Pacific—in the hope of wresting some part of the secret. Wright once told me that he and his brother, when in labour with the first aeroplane, watched birds by the hour, by the day, by the year, especially the buzzards spiraling upwards on still wings, but discovered nothing, or next to nothing, till they themselves could fly, when the birds' secrets leapt to the eye. We love to

“stand and stare” though we can point to no definite achievement or discovery. I dare not boast of any detective success, but perhaps it may add to the interest of the host of starers to suggest possible clues. Travelling for some days against a firm north-easterly wind in a ship always attended by some fifty or sixty gulls, I seemed to get some confirmation for several suspected causes. The longest, most successful, most astonishing glides, are made close to the ship, neither far to the side nor high in the air. The albatross, which possesses, perhaps, double the skill of any other species at the gliding manoeuvre, prefers to skim the surface within a yard or so, especially if the water is ridged and furrowed. I would hazard the belief that the longest glides are made on the windward side. When the vessel quite directly faced the wind, as happened now and again for short spaces on my latest journey, there was little gliding, and often rather stern and almost laboured flying. On the other hand, a slight angle, though adverse, seemed to help.

And what are the inferences? Of course the bird, like any glider, can use the wind to lift itself up, if the plane of wings, tail and body is rightly sloped and has been launched with any impetus. It is astonishing how slowly ground is lost if this lifting power of the wind is used alternately with a downward glide. Gravity, the “stream lines” and plane of the bird’s form, and the power of the wind, give the maximum of efficiency to this mode of motion. The loss of forward motion is slight, but it is not at its minimum. So far we have reckoned without the ship, which is most important, and without the sea. What a cliff is the side of a ship, as we notice when we pass another! Now we have all seen gulls shoot upwards along the surface of a cliff without a movement of the wing, and choughs career up Swiss

valleys in as triumphant a manner. The gulls even float backward from the cliff as well as upward, so great is the return bounce of the wind as well as its upward sweep. The wind behaves exactly in this manner when it strikes the barrier of a ship's side, but the actions are more eccentric, less calculable. It is sloped upwards by each wave, ricocheting at any angle like a duck-and-drake pebble that jumps high or low according to the part of the ripple it strikes. More than this, the ship is tearing onwards, making its own draught like any express train that carries a swirl of light objects in its wake, however adverse the wind.

It follows that the air currents about a steamer are inextricably various, as complicated as the grain of a gnarled chestnut ; but they are not too complicated for the gull. Clad in feathers more delicately contrived than the petals of a flower or the scales of a butterfly, so subtly shaped that a flicker of the wing drives it upwind as the waggle of a fish defies the stream, so penetrated by air even in its bony structure that it is one with the elements it floats in, the bird as vital and vivid in brain as in form, can use every little stream of air as a weaver his threads, and contrive a pattern of flight that appears to defy all laws of motion in the eyes of a grosser being harnessed to the burden of uninstrusive reason.

5.

The bird table close in front of my windows is decorated with four king pippins, half destroyed by the frosts. They were put there for the sake of tits and blackbirds, and to the benefit of starlings. They are actually enjoyed, through the whole of the sunny part of the day, by innumerable honey bees. The bees are so jealous of the

ambrosia, if a rotten apple may be so described, that they furiously attack any alien bees from more distant hives that dare to come to the feast. They leap upon the interlopers and bite at the base of the wing, exactly in the manner they used against the drones last autumn, and sometimes the clinched pairs tumble off the edge of the table. When occasionally a bird comes to share the feast the bees can scarcely be persuaded to leave. Since this experience we have put out cups of water with stones in the midst and find them popular both with bees and birds and perhaps some of our fruit buds are saved. The need of both is greatest in February and early March.

The swarm of bees in the rotting apples aptly pictures the chief eccentricity of our springs. The seduction of the sun, however bitterly qualified by the north-easterly wind, proves a clarion in the best Shelley sense. The bees could not stay in the hive. The green-bodied flies, who were among the visitors to the apples, emerged from hiding. The deep hum of a bumble (*bombus terrestris*) tells how even this cautious winterer has left the security of his winter quarters. Brimstone butterflies look like primroses on the wing. A large plump feather, shed by one of the Rhode Island Reds, floats down into the stream from the ivied sycamore, announcing that the sparrows, which habitually "defeat the pistol," as sporting reporters say, are already building nests before the real signal of spring has sounded. Songs are plenty—from dunnoek, chaffinch, tit, thrush, and starling.

The company had arrived for the festival, but the house was not ready to receive them. The lights were lit, but the table was not spread. Even on a sloping southern bank, thick with the earliest plants, especially with aubrietia and arabis, the bees sought pollen in vain. Not a bud even promised to open. They struggled for

a place in the few aconites and crocuses, but both had begun to flower before the frost, and were poor and tousled. The snowdrop, whose modest head bows successfully to the worst of winter, is of little use to bees. So to the insects the world was flowerless and foodless. Hence the godsend of the apples.

A most surprising example of the energy of the moment is the rising of the coarse fish. Dace continually leap clear of the water with a splash loud enough to excite the interest of a spaniel nosing after voles in the bank. This must mean that some flies are rising, and the stream—The Lea—or Lee, as some assert—is rich in insects. The March Brown, the Caddis and the Mayfly hatch in myriads; on some streams I have known the mallard hatch too early for the food supplies; and the poor mother, one of the best in the art, fails altogether to keep her brood from starvation. Here they frequently hatch in February and are easily watched. Is there any prettier sight than the crowd of young scurrying at the first alarm to their mother's side and clinging to her as bubbles to one another, you would say by capillary attraction? As she swims off—seldom in my experience taking wing—she appears to tug the raft of youngsters with her, though doubtless they are all paddling as hard as may be. Even the earliest broods flourish.

The richness of the water in food supplies has induced a group of ardent fishermen to restock the river. Every single fish vanished during the War—not like the coarse fish in the neighbourhood of St.-Omer from the bombs of soldiers, but from mere neglect. There are some streams, of which I think the Lea is one, in which trout flourish greatly but cannot breed. They do not find such gravelly retreats as delight them in the Itchen; and the trout is only less dependent on a peculiar nesting

ground than the copper butterfly which must find a water plantain or die out.

The coarse fish are more like the common white or lesser tortoise-shell; their breeding places are many. Sticklebacks, dace, roach, and gudgeon abound; and the dace mimic the trout and will respond yet more readily to the lure of the dry fly. Indeed an ardent fisherman visited me while the fish were rising seductively under a spreading sycamore which they always prefer; and he sent in a hurry for his rod. He was sure that no fish but a trout would rise in such a manner. Within five minutes he had landed two stout silvery fish, both dace of unusual weight. That evening a railway porter who has a passion for watching the float tried his stouter and coarser bait under a neighbour sycamore, and though his success was not so slick and neat, he proudly showed me as the issue of an hour's fishing, a dace, a roach and a gudgeon, whose variety delighted him. The fly fisher was merely disappointed.

6.

London is an amazing place—a home of marvels wholly unexpected by its most learned inhabitants. After some weeks spent on the sea and by the sea and among districts wild enough for the shyest bird, I entered a London club, and within a few minutes the whereabouts of this rare and strange visitor was eagerly whispered into my ear. London is a home of birds as of bird-lovers. If any naturalist desires what is sometimes called a bird holiday, he could scarcely do better than select Middlesex. It is a rival even of Norfolk. What a surprising experience it is: to take a very cheap

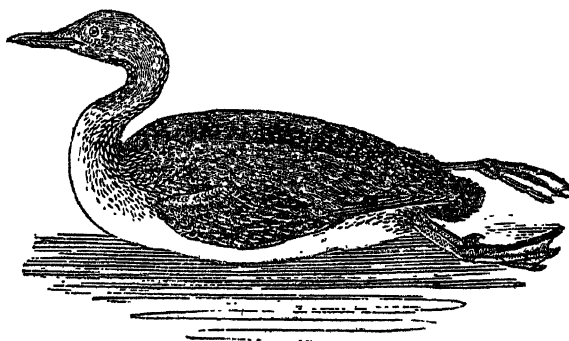


Photo by Eric J. Hosking

GREAT-CRESTED GREBE ON NEST

ticket at Liverpool Street Station, descend in a suburb, and walk straight up to birds such as this diver, redolent of Northern wilds, of East Sutherland or a Scandinavian farm, to watch him at your ease while he swims without alarm at fifty yards distance and pretends to be an artificial ornament.

London appears to make a special appeal to birds of this genus. The divers and grebes are near cousins; and no bird, I suppose, is more firmly established in London waters than the greater crested grebe, who sails with all the glory of a swan and almost with its tameness, about most London reservoirs and lakes, however many eyes are levelled at his progress. That small and dainty bird, the little grebe (so often in name, at any rate, confused with the moorhen), enjoys London, and leaves it only to breed alongside some neighbour streams. Then come to London such single spies as this red-throated diver.



MARCH

*The Last of the Elm Age—Two Springs—The March Hare—
A Bedford Sanctuary—Eccentric Tastes—"Turn but a Stone"—
Building Tastes*

I.

IT has seemed to me while travelling about England, especially middle England, this spring that its landscape has suddenly lost an antique virtue. Take the scene which has long seemed to me the most thoroughly English, though not among the most glorious : the gentle scoop of the plain as seen from Sun-Rising Hill, when you face towards Stratford-on-Avon. We all know the recipe : hedges, green fields, and very many trees growing here, there, or anywhere, for no other purpose than to enrich the landscape. Some are isolated ; some in hedgerows, some few in clumps. England hereabouts looks to be just a park, a place to please the eye with its contour and form, and the mind with its quietude—these its only purpose.

What has happened to divorce to-day's reality from expectation ? Warwickshire is not altogether itself to-day. As you look you feel a little like Wordsworth after he had absorbed his youth into middle-age. To-day Stratford seems to "take a sober colouring from an eye that hath kept watch o'er man's mortality." But the fault is not in the mind or eye. The truth is, the trees are gone. I suppose statistically more elms fell in the great gale of March, 1916, than have fallen in any one week since ; but then we could spare them better. We have

now lost, not platoons or companies, but the whole of relic battalions, for there have been few new drafts. It appears that somewhere about 130 years ago English people must have united to let their elms grow as they would. The trees have not been duly spaced out in succession ; but one particular generation was given a free run, reached its proper limit, and has now collapsed, like Wendell Holmes's "one hoss shay," all at the same time. And the elm is at best a sudden tree, preferring to die in its strength, whether it topples "roots and all, branch and all," or cracks like many of the great trees in the Broad Walk at Oxford or succumbs to the new elm disease, a fungus pest carried by that strange beast the elm beetle whose young are born under the loosening bark.

The Broad Walk has virtually ceased to be ; and may be fitly taken as a type of the great elm age that is now extinct. We have passed into another age, not yet christened. All our gardens are robbed of their elms, and we have had trouble to dispose of the relic trunks. No one will buy, and even dumping grounds for the sulky but well-grained wood is hard to come by. Where elms stand, nervous neighbours beg the owners to destroy the treacherous pillars. I know a score of scenes grown quite alien of late.

It is the time of year when of all trees the elm is most lovely, when the woods or groves grow deep purple, partly with the lovelier tints of the twigs as the sap runs up, partly with the queerly vinous flowers, which are more suggestive of season, to those who live among trees, than even the sudden whiteness of blackthorn or cherry. There are elms and elms, of course. We cannot even argue, as was once the fashion, that the common elm is not an English tree because it sets no seed, while

the wych-elm (with its much superior wood) is, for it sets seed freely. For the variety of elms that pass for common are many in the country as well as at Kew and some set seed, some do not. In and about Warwickshire the so-called Irish elm is, I think, especially common. Whether they grow from seed or not, the race has so powerful a skill in thrusting up suckers, especially when the old trunk is gone, that it may be classed among "the irrepressibles." Nevertheless and notwithstanding, the elm will dominate the English landscape less and less from now on.

Its enemies are many. Farmers demand its extinction, for its eager surface roots are greedy. The makers of new roads have banned it as dangerous, though perhaps an occasional fall is less productive of accident than the broad leaf of plane or sycamore that slides like an orange peel. How many gigantic bases have been excavated of late from the sides of widened roadways! One of the first acts of every afforester, amateur or professional, is to root up his elms. Indeed, the extinction seemed so wholesale to an old country labourer that he lamented: "Soon there'll be nothing left to bury us in"! He knew the one constant use for the dead wood. But its value is beyond its reputation. The finest beam in the oldest house I know is not oak, but elm, and as sound as the day it was set, which is some 700 years ago.

What tree is to take the empty spaces? Some must, though we have no happy law like the Austrian that compels a man who destroys one tree to plant two. We have had our rages. Even the hideously un-English sequoia, which its ingenious importers rechristened the *Wellingtonia*, had its vogue; and Cobbett, not without some reason, saw wealth and beauty, both, in the acacia. The Government made Hampshire the nurse of the ash

instead of the oak as soon as aeroplanes came into their own, and the scenery is quite altered in obedience to the demands of the prevailing machine. The Forestry Commission permits a few seedling oaks and a good number of beech among its conifers. Many foresters in a hurry plant Canadian poplar and cricket-bat willow. England will be more fully treed, not less. Nevertheless, there is a danger in the open, less populous country places that fallen elms may find no fit successors; and one would like to see them faithful to the old tribe. The wych-elm is a noble tree, without the family vices, and how very rarely it is set!

2.

A sturdy conviction that the English spring is the best of all springs does not diminish the pleasure of forecasting the season and travelling with it from south to north. I saw it dawn one year in the lovely isle of Majorca. Birds of the swallow tribe flew to and fro over olive and almond in the Mediterranean islands early in February. Pottering about the balcony in the sun, picking up crumbs from *al fresco* breakfasts, the dainty, newly-come Sardinian warbler was as friendly—almost—as the English robin, and as fresh as the first migrant warbler. The “sea-blue bird of March” was a streak of light over salt waters so clear that deeply-covered rocks were bright as garden flowers. Described in words, this southern and Mediterranean spring would out-glorify as surely as it pre-dates, the most precocious of our seasons. How better can we make the mouth water than by telling of a land where the most prevalent weed, excepting perhaps the pretty “sour-sop”—think of it!—is the asphodel, universal, ineradicable; where the chief

harvest is the almond, already beginning to shed its white (not pink) blossoms as the lamb-like days of March come bleating in ; where the whole atmosphere is fragrant with the scent of the bean blossom, while still the summits of the hills are under their bedclothes of snow ?

Surely that is one of the islands of the blest of which Homer sang. Yet, how is it—and there is no fancy in the fact—that, however delightful it may be to see a crowned horpoe scattering almond petals among the bean flowers, the sentiment of spring does not carry half the appeal of the frail plaint of the willow wren among the thorns, or, for that matter, of the rough speech of the rooks in the bare but purple elms ? The asphodel, though both graceful and salient, though delightfully christened, though sugared all over with successive deposits of poetical associations, grows everywhere in the south of Majorca ; and it is a flower rather to admire than enjoy, when it lords it among the grey rocks about the feet of the grey olives. It stirs no pity to watch the peasants rootling out its brown bulbs, like pigs after New Forest truffles, and leave them to rot in clumps on the surface, as unlovely a spectacle as the nightmare cactuses specially reserved to beautify the homesteads and protect the poultry.

The virtues of Madeira—to continue the “ odorous comparison ” of rival islands—are more permanent perhaps than those of Majorca. When you land at sweetly-scented Madeira (which is near the supposed site of the Fortunate Isles, as at first imagined), you are at once aware of a Paradisal appearance. The country has escaped marauding winter. From the singularly rich and fertile soil, covering the southern slopes of the volcanic hills, erects itself one abrupt, almost vertical

rock ; but even the most rugged corner of this else barren rampart is enveloped in the splendour of a *Bougainvillea* that beacons for miles. It might be a lighthouse for sailors to steer by. The very rocks, it seems, are "born in the purple." And flowers yet more splendid than these glorious shams prevail everywhere. The master blossom, perhaps, is the *Bignonia* (*Venusta*), whose gold-orange pipes litter the stony pavements and crown the walls like a constant sunset. And many of the rampant creepers, reaching even to the tops of fir and gum trees, have a wide compass of colour. The *Bougainvilleas* themselves range from rich purple to brown, a brown as deep as the wine of the country ; and are often juxtaposed in an association of hues much more gorgeous than pleasing.

In such luxurious climes most flowers advertise themselves from afar. They almost become posters and placards. Your eye is challenged by the *Poinsettias* from a mile away, and a coral tree challenges you like a lit lamp. *Geraniums* and the most lovely *streptisolum* make hedges of unbroken blossom. How immense, like *Madonna lilies* in a land of giants, are the white trumpets of the *daturas* ; and the African lilies fill the air with the hot sweet scent of the mock orange that we touch in England only in full summer. The *agapanthus*, the love-flower, is not a precious invalid to be "ribbed and paled in" within the hoops of a tub, but a cultivated weed fit to cover a rough and spacious bank. The flowers of the *thunbergia* ramping, almost rampaging as it pleases, are as big as a greenhouse *gloxinia*. Indeed it seems a sort of conscious boast over England that many of our petty but much-prized hot-house plants flaunt in the open at a date that is nearer winter than spring.

The severest comparison of all is offered not by flowers, but by leaf and bough. The most glorious trees are of the laurel family. By most English gardeners the Portugal laurel is regarded with a sort of hatred, as perhaps a useful thing in its place, or to fill a gap or stop the draught ; but of no beauty of its own. The truth is that the laurel at home is " a wonder and a wild desire." The polished mirror of the vivid leaves rocks the sunlight as the million ripples of the sea. Swaying boughs at twenty or thirty feet in the air display virtues that are dwarfed to mere vices in a clipped and frustrate bush balked by too contiguous neighbours. Most countries are made richer and more lovely by their exotics, but the glory of one country may be the shame of another. The same vandal hand has edged the roads of Madeira with the oriental plane that has defaced English gardens with laurel shrubberies and formal " rockeries."

How delicious are constant suns and flaming flowers. What a gay parody of Paradise to be daily pelted by children with wattle and arum and even camellia or rose ! How grim to pass directly into a world where the courageous and lovely crocus " lays its cheek to mire " at the assault of belated frosts, that dare the buds to break and the bare boughs to deny winter ! Well, let us confess the lesson of the comparison between Madeira and England ; but the whole story is not told : there is a counter confession to be examined. On the way from Southampton to London, much more in the garden at home, you become at once aware of a quality that you missed even while basking in Paradise. Within a month or less, the Bougainvillea begins to grow stale, and even the sunshine be tarnished as a commonplace. You miss the excitement of the open air in England with its queer variety of mood and expression ; and static beauty,



WILD DAFFODILS IN A DEVONSHIRE ORCHARD

however high, cannot compare with dynamic, however low. When the chaffinch (in early March, not Browning's April) sang from the apple tree and the humble daphne flowered at my feet and incredible clouds blazed in the threatening west, I was quite sure that England was the Fortunate Isle for me.

Amongst woods of almond or acres of asphodel or roods decorated with the lilac cistus, all most entrancing flowers, an engrooved Englishman found himself searching for humbler flowers ; and delighted absurdly in the discovery of the purple anemone, and that yet humbler and rarer weed the blue pimpernel. Somehow they impart the sense of spring much more surely than the more spacious splendours. After the same principle the great birds, especially kites and peregrine falcons, and flocks of the thick-kneed plover suggest a bird lover's Paradise ; but the bird that gave the most real and most general pleasure, at least to English tastes, was the Sardinian warbler, with his slate-blue back and white breast and homely ways. Can it be that we genuinely prefer what is little and humble, the meaner beauties, a violet that hides its head or a shade-loving primrose, before the great and gallant, that flaunt it in the sun ? No : it is not quite that, as our gardens prove, though some of us, perhaps, will be forced to confess to a preference for the small bird over the big. The blackcap, though it would not, as Raleigh said delightfully of the nightingale, " win a prize at a poultry show," gives more pleasure than the raven.

At five, when the tardy sun moves westward in a soft haze, the chorus of birds bestirs again, more varied and louder than in the morning. You may look direct at the rayless sun through a curtain of catkins. It is a conjecture whether the haze will turn to mist, whether

the chill becomes frost, whether the thrush will dare to build, whether seeds may be sown, whether the season is winter or spring. We taste the authentic season across a savour of an "aliquid amari," that will sharpen when we go out to watch the vivid stars after dark has fallen. Each season seems new. We say: "Seldom has spring practised this art of titillation with quite such Puckish art as this year. Seldom have flowers or nests been so few. Seldom the exercise of garden crafts been so long postponed. And this means——." What does it mean? It should mean a spring as crowded with events as what is called in urban society, "*the season.*" But we do not know. We still want to be sure which plants have survived the February ordeal, whether many March frosts mean few April, whether length of expectation is the measure of assured fulfilment. An English spring never shows its hand till the last trick is turned. That is one reason why we enjoy its play supremely.

3.

Looking over the great stubble field you may see, as distinct as the sheep in the meadow, a number of hares at play. "March hares" are not as mad at the end of the month, at least in the South, as they were three or four weeks ago, but their gambols are still quaint, if more restrained. They often suggest a Jack-in-the-box, so suddenly do they sit up, looking as tall as the hare in "Struwwelpeter," and then after a skip or two stop with a surprising suddenness, as if the spring had broken. They will then lollop or lope off—a phrase especially suitable for the hare—as if they had thought of some rather uncongenial duty that must nevertheless be attended to. As we watched them this March more closely we

saw that almost all the does were heavy with young. A very few had passed that stage, for, hidden in the long grass in the next field to the stubble a very tiny leveret was almost trodden on. It would be about three weeks old when the first of spring struck.

A favourite passage, introduced to me long ago by an admirer of Coventry Patmore, greets St. Valentine with the words :

O, Baby Spring,
That fluttereth sudden 'neath the breast of Earth
A month before the birth.

And the poet goes on to give his instances. The birds sing and the bulb breaks, but neither he nor, so far as I know, any of the more popular heralds of spring have much to say about the birth of any mammal, except perhaps the lamb. Are the doe and the leveret a less spring-like signal than the ewe and the lamb? Now that we have sheep, especially the Dorset horn variety, that habitually mistake November for March, the wild animal is the better example for the poets who, Milton-like and blackbird-like, can only sing after the winter solstice.

What a strange mixture of candour and furtiveness the way of the hare reveals. They play about the fields almost like domestic animals ; and their pathways are often as obvious as sheep runs, and their favourite gaps in the hedgerows as well defined almost as the arched opening of a chicken-house. And this obviousness is often their undoing. Yet the same animal will lie so close and still and brown on a bare ploughed field that you may pass it by almost as easily as if the "form" were a plover's scoop. Even this secretive stillness is as nothing to the art of the mother of a young litter in concealing herself and her family. Presumably keepers,

farmers and naturalists have accidentally come upon a complete hare family, but I have never known an instance. It is altogether surprising that we do not know the normal date of birth, if such a date exists. More than this, or worse than this, hunters of the hare do not observe Nature's close season, regardless of the habit of the hare to ante-date spring. The Beagles pursue many a heavy hare.

The hare, of course, being without a roofed home, has the rare and curious habit of distributing her young, soon after birth. She is afraid of keeping her hatched eggs in one bassinet. Yet the technique even of this device is little known. The hare, like the thrush and blackbird, has five at a birth (as proved last February), though, in spite of proof, an old country belief still has its adherents that she resembles, not the thrush, but the pigeon, and produces only two young. The hare divides her young into different parcels, it is said two, but I think they must, sometimes at least, be more widely scattered. How often it happens that a single youngster is discovered, and how very seldom as many as three! Their success in avoiding enemies and cancelling the handicap of their open life is scarcely credible. The young, like baby ducks or moor hen, are active from the day of birth; and those strong kangaroo-like pair of hind legs take them over the ground with surprising speed at an age when other young mammals, rabbits, as well as rats and mice, and most young birds, are half blind, naked, and helpless, opening, like Milton's bishops, "blind mouths" to the food delivered to them.

Young hares are like young ducks; but the mothering duck has a nearer resemblance to the rabbit than the hare. When you come upon a rabbit's nest and a duck's nest about the same date—and both anticipate spring—the

likeness of habit must leap to the eye. The young rabbits lie as snug in the fur plucked from self-sacrificing mother as the duck's eggs—in some species at least—in the mother's feathers. No human prisoner, tunnelling an escape to freedom, ever hid the excavated soil more cleverly than the cunning old doe, who leaves the populous burrow and the child-killing buck for some yard-long cradle of her own make, often situate in the open field. I suppose no animal, above the scale of insect or fish, has the art of increase in so high a power. Rabbits are as successfully furtive as the hare, and the litter is larger. They begin to breed in January, indeed even earlier, and continue to breed for most of the year. If their hole betrays a few to the stoat, it nevertheless saves scores from vixen and buzzard; and the maternal skill with which the doe conceals the nest in day-time is unparalleled. When need is, they will lie as low in their form as the hare, and the form is generally more skilfully covered and concealed. They can scrape a living off bark, which is always in season, and are as good foragers as any goat. The hare, on the other hand, like the partridge, needs succulent tips, and not a few have been betrayed by a special fondness for garden carnations, as the pheasant for its insatiable passion for anemone flowers, especially the variety fulgens.

4.

Every spinney, every hedgerow, every garden in this friendly England is in some sort a sanctuary; but we generally mean by a sanctuary "a place within the meaning of the act," a fenced close, properly and officially consecrated and dedicated, for the preservation of wild animals, especially birds. Such inviolate homes are to be

found now all over the country, making a succession of dots, almost like the parish churches ; and bosomed high in tufted trees are great quantity of bird boxes in lieu of towers and battlements. On one of these spring days, when the birds are building and singing, these sanctuaries have a certain advantage, even over the country spinney or the large and wilder garden, which in a general way are the most favourable of all hubs of observation.

One of the most charming—and I knew it in its unregenerate days—is an appanage of the Zoo at Whipnade. I would rather have the freedom of it than of any town or borough in Christendom. The hill gives a league-wide view over many counties. The chalk that forms this high ridge has the virtue of encouraging fine grasses, that make it a pleasure merely to tread the field. The short turf and bare spaces associated with a downland are cheek by jowl with a rare variety of trees of great height. Some of the larches, giving a faint hesitant suggestion of green, are a hundred feet high, and the dark firs are as ambitious. Only a long ride, with a most Gothic arch of trees at either end, separates the fir wood from a wood of oak and beech. On the floor of this innumerable bluebells, at first looking more like green starfish than flowers, disturb the carpet of brown leaves.

How lovely, even when the boughs are bare, is any deciduous wood beside an evergreen ! Under the spruces—nothing, or next to nothing, beyond the needles and a little moss and an unpleasant elder or two. Under the oaks, primrose, bluebell, anemone, dogs' mercury, celandine, with bushes of blackberry ; and everywhere light and space. Yet the pine wood inevitably suggests certain resemblances that endear it. The likeness to a

medieval cathedral, where every window keeps out the sun, is real enough. The sense of darkness when you leave the open sunlight is at first almost blinding, till your eyes grow accustomed to the dim religious light, and the architecture of the trees becomes apparent. The scent of the pines, especially on a warm spring day, is incense indeed. The only birds in the wood are pigeons; and you might almost take their croony notes for the subdued murmur of a screened ritual or the whispered voices of an enforced reverence.

The sanctuary itself shares the virtues of both the flanking woods; and by some strange gift of intuition birds know it for a sanctuary and gather to live within the pale. The first migrant of spring, a chiff-chaff, was in song there on Friday, March 14, two weeks before any were heard in the neighbourhood. They seem to have a likeness to that little duck made famous by Lord Grey, whose mood changed at once from wild to tame when it passed inside the boundary of the protected ponds. The trouble is that a sanctuary may be too popular. It gives refuge to visitors that are not altogether desirable for the reason that they interfere with the liberty of their neighbours. Almost every tree has its bird-boxes, but already a great number of those with favourable holes are under the actual or prospective occupation of starlings. The tall wires that rib and pole in the sanctuary from unwanted beasts cannot keep out these harpies of the air, who to-day have lost much of what popularity remained to them, now they are known to be the hosts of one of the most tiresome maladies that afflict hens and pheasants. But, as Milton wrote of other unwelcome exploiters of holy places:

Enow of such as for their bellies' sake,
Creep and intrude and climb into the fold!

For, more than this,

 Their lean and flashy songs
 Grate on their scrannel pipes of wretched straw,

and we come into the sanctuary to listen for the Easter warblers.

And there is one other harpy. The foxes climb over the ten feet of wire with little difficulty, though they sometimes leave enough fur to betray their passage. They climb it both for the sake of the waterfowl and, oddly enough, to seek, when they are hunted, the sanctuary that they are apt on other occasions to violate.

It is satisfactory—and to some surprising—that the frail little warblers should appear, pat to the appropriate date, undeterred by past excesses of the weather. For still we may see, especially, as it happens, in London, how other greater, stronger birds are still under the influence of the frosts. At Chiswick, and, indeed, much nearer to the flowering almonds on the Thames bank at Battersea, the water has been so crowded with duck, pintail, and pochard, and some of the rarer sorts. Among gulls were included at least two species strange to London. But of departed winter, however grim in memory, and of lag-gard spring, parsimonious both in food and cover, the sand martin, chiff-chaff and wheatear, and doubtless anon the willow warbler, black cap, swallow, nightingale, and the rest take no heed. They refuse to postpone their home-coming to this England, which is all sanctuary in their regard. It is odds that quite soon in the black-berries at the foot of the oaks in this particular sanctuary the white-throats will be building their frail nests at the due date, and the soft-voiced red-start seek for a box spared by those gourmand bullies who would “shove away the worthy bidden guest.”

5.

That learned man, Dr. Collinge, who can tell you, by analysis in his laboratory, exactly what each species of bird feeds on, has not solved the problem of the way of a bird in a bush. It may be added to the four mysteries that puzzled the great Solomon. The ways differ every year and with every week and month of the season ; but are most eccentric—and certainly most vexatious to the gardener—at the approach of spring. For example : when the snow fell the buds of a very vigorous forsythia were promising to rival the brightness of the naked-flowered jasmine, the most cheerful of plants we have. But the jasmine will keep its pre-eminence, for the forsythia have been nipped in the bud, not by snow or frost but literally by the beaks of birds.

Every day the gardener, while he ate his lunch, watched through the window three bullfinches eating theirs. The sprays of the climber jutting from the corner of the wall provided easy and pleasant perches ; and comfortably installed on them, the three birds nipped off every flower bud within reach. While the snow lay, the surface of it under the boughs was visibly sprinkled—thick as the floor of a wood after the first autumnal frost—with the mangled buds. It was a little difficult to determine whether the bullfinches acted like “ young men in France, merely for wantonness,” or whether they devoured a small portion, or just tasted the essential juice, the embryo honey. In the gardener’s eyes they seemed to act like a fox that enters a hen-roost and kills every occupant for the lust of his murderous instinct. In his view the “ bullies,” as the children without evil meaning call the birds, nipped off bud after bud for the fun of the occupation, not only, not chiefly for food. He was

angry, for the forsythia is usually a glorious spectacle, coming at a barren season ; and he demanded the service of a gun. The alternative of black cotton, fluttering paper, and a stuffed cat was suggested and accepted, and proved sovereign.

From another garden and much about the same time, though on one of the warm days, a more deadly and desperate affair was reported to me. The alighting board of the bee-hive and the ground below it were littered like the snow below the forsythia, with bits of victims. Many hundred bees had been killed before the discovery was made, and fragments of their members were scattered about. The hungry tits had learnt the trick, more often reported perhaps than practised, of tapping on the boards and devouring piece-meal the emerging bees detailed to the duty of keeping watch and ward. The choice between bee and bird was offered to the gardener. Compromise in this issue seemed too difficult ; but it would be interesting to see whether black cotton, that panacea of the old-fashioned gardener, would alarm the tits and not affect the bees. To live and let live is not always quite so easy a rule of life as it may sound.

Another day truth compelled the confession that blackbirds and berries were incompatible possessions. To a famous garden of winter shrubs that I visited hoping to see a wealth of berries, the blackbirds had collected in hundreds and eaten the loveliest fruit-wholesale ; and bullfinches, tits, and blackbirds do not complete the list of the birds against whom ardent gardeners protest. Fifty yards from the feast-table of the three bullfinches is a patch of brussels sprouts, the chief adornment of the potager. Every morning, soon after the sun is up, two wood-pigeons descend on it and do not leave till their

crops visibly bulge with the leaves of the sprouts. They consume about a dish a day, for of all the birds that fly none has so constant a greed or so capacious a storage as the wood-pigeon. He is the farmer's most persistent harpy, as the moorhen in some woods is the keeper's.

Springtime hunger in the weeks or months before the insects appear is the most insistent and hardest to satisfy ; but many sudden onslaughts on particular buds or leaves or berries are hard to account for. Why last year did the sparrows pick off almost every bud of one particular gooseberry bush which had been transplanted ? Why did a group of chaffinches years ago strip a plum tree bare ? Why do sparrows destroy crocuses only in certain beds of certain gardens ?

Beasts and birds have, of course, very fine palates. Both rats and mice will dig up and eat certain varieties of the edible pea and not others. Rabbits will touch no other bush if they can find sapling ash and young holly. All finches, even the incredibly voracious hawfinch, who is more gourmand than gourmet, much prefer the gooseberry bud to the currant. Birds, including starling and, surprisingly, moorhen, as well as ants and wasps, prefer Cox's orange apples before Bramleys or other "cookers." Those evil persons who would attract their neighbours' game are aware of certain foods whose attraction is invincible ; and the news of its presence seems to be broadcast at the shortest possible interval. The birds assemble in quantity and at once, as greenfinches gather in hundreds to a field of ripe mangold seed. I once visited a seed grower who had shot 150 within an hour or two on his farm in Norfolk. The vulture is not quicker in discovering carrion or an easy victim. We can repel as well as attract. Foxes will not face certain smells that do not affect the sitting partridges. Could

not our men of science compound harmless sprays or devise repellent patterns or colours which would abuse blackbirds, finches, tits, and pigeons of the tastes that interfere with our special pleasures and profits? The most ardent bird-lover may forgive himself for desiring to have *some* gooseberries on his bushes; and trussing up every bush or stretching unlimited cotton is a long and thorny labour. We want our fruits and our birds, both, and desire full hives as well as devoured coconuts. Happily, the palliative of a groaning bird table and a shallow pan of water is open to all of us. But it is only a palliative, often scarcely perceptible.

6.

On the south coast of Cornwall is a little harbour that enjoys the snug name of Mousehole. It is more like a room than a port, more like a river lock than either. The grand stone defences that rib and pale it in approach so near that the fishing vessels run a risk of knocking their elbows as they move in or out; and when the south-west is strong, pushing the sea into immense ridges and furrows, the narrow gap in the masonry may be blocked, as in a lock, by great balks of timber. If the knocking Atlantic demands entrance it must come over the top; and sometimes, indeed, stone and all, wood and all are topped with the shattered combers, like a garden wall with broken bottles. Mousehole is a delightful name for such a place, but in strict natural history vole should be substituted for "mouse," since that cunning little mammal so contrives its home that of the entrances one is below water, one on dry land.

The oddity of this and other harbours, including St. Ives, is that they are dry at low tide. The ships that

frequent them must be content to have "one foot on sea and one on shore." With the incoming tides the vessels come to life again, very much in the same way as the weeds, limpets, starfish, and sand eels, that look moribund till they feel "the salt sea water oozing in, and out again"—a condition regarded by an indolent Oxford poet as the most blessed imaginable. The first time I saw Mousehole, a place worth a long pilgrimage for its mere and general appearance, the sea was flowing in; the second time the tide was at its lowest; and though it is the right function of a harbour to be full of water, a dry harbour may, nevertheless, possess as real virtues as a dry dock. Some are of an unexpected sort. Certainly on that gracious day we discovered qualities quite undesigned by the builders—Phoenician, Elizabethan, or modern—who successively contrived the perfecting of this gem in rock and masonry.

A stream tumbles into the harbour, making a miniature waterfall, and thereafter spreads about among the sand and pebbles in the form of a scarcely visible delta. Into the purity of the water it were perhaps unwise to make inquest, but it is grateful to the eye. To many sorts of birds it is a paradise, for the snugness of the place, the peacefulness, the kindness that envelopes the west country, unite to persuade them as they feed of the sanctity of the refuge. They are fishers among fishermen, pickers up of unconsidered trifles in a complacent world. As we looked down from the granite blocks into the oozy harbour where this soft water disappeared among the shingle we slowly became aware, as if our eyes had taken time to attune themselves to a new sort of twilight, how rare and various a population were enjoying the unusual conditions. Little birds and big birds, shore birds and sea birds, waders and swimmers, had gathered

into a happy family. Black-backed gulls, savage and huge, paddled about with the white herring gulls and some others, taking their mincing steps across the sand, heedless of the jackdaws that fluttered over their heads and alit among them when any morsel was discovered. In the concourse of these salient creatures it was some minutes before I noticed the smaller and rarer birds that were lurking in their midst.

There is no "protective mimicry," no aesthetic "adaptation to environment" about the white gulls or the black jackdaws. Beside them a pair of birds of considerable size were well enough dappled to the pattern of the shore to escape immediate notice. They carried no startling patches of white, and the blackness of their backs was relieved by greyness. Only the thin shanks were coloured more brightly than the pinks and greens of the gulls. They trotted up and down the thin-spread stream, poking among the pebbles with their sharp beaks ; and, unfamiliar though they were to a generally inland observer, their identity was announced by their attitude and behaviour. They were Turnstones, very busily illustrating their most English name. It is a sort of pun, not perhaps quite pardonable, but as I watched them I could not help recalling familiar lines written, in a very different reference, by Francis Thompson :

The angels keep their ancient places,
Turn but a stone, and start a wing !
'Tis ye, 'tis your estrangèd faces,
That miss the many-splendoured thing.

You could mark in the birds, both in guise and plumage, their cousinship with more familiar species. They suggested plover, they suggested oyster-catcher, though their utter unconcern as we watched them from ten or fifteen yards distance rather suggested domestic fowls.

Birds that frequent shallow waters seem to have drawn the attention of our language makers more than other birds. How many of their names are just potted descriptions of some outstanding feature: oyster-catcher, redshank, greenshank, spoonbill, and, last and least, wagtail. With the two turnstones were two species of wagtail, the pied, of course, and the grey, which is almost the gayest of our small birds, bright and various in plumage, merry in chatter, and singularly light or buoyant on the wing. Those early christeners must have disputed whether to name them wagtails or wag-heads. Perhaps they chose the first so as not to confuse them with moorhen, who have the head-wagging habit as strong as Lord Burleigh. One of the fishermen looking down on this family went astray in his names. He called the daws “Cornish choughs,” pronounced “chows.” But, I fear, it is a rare event in these days for the chough proper to take his place among the daws, a too virile bird, that has perhaps been one cause of his cousin’s rarity.

7.

One of the most amusing of garden games, especially for those who have a lawn in sight of the window, is to offer building material for the use of birds; and it may provide occasion for research into mind and habit. This was done generously many years ago on a Surrey lawn in the course of an endeavour to naturalise the handsome thrush that the Pilgrim Fathers, misled by the redness of his breast, decided to christen the robin. I watched a number of them pick up bents, but before going to the nest at once, they journeyed to a muddy pool and dragged each piece carefully and several times

through this natural mortar. The habit is common to the thrush tribe ; and though our song thrush alone goes so far as to line the nest with mud of sorts as a bed for the eggs, the blackbird often uses the more mud of the two and builds the heavier nest. The loveliest nests, of course, with long-tailed-tit and chaffinch in the lead, are woven of cobweb, of hair, of finer bents, but a great number of our birds are also artists in mud ; and some are put to it to find the mud in a very dry March. All the swallow tribe have been famous throughout the ages for their *luteum opus*, which they fortified by their own chemical additions, and in some countries members of the family will put off nesting for six weeks and more if the drought is severe and mud scarce. The nuthatch makes the neatest circle of muddy cement to narrow the entrance door ; and rooks, who surely were never fuller of spring noises than at the moment, carry to the elm tops such ample lumps that their nests on occasion breed earthworms as freely as the lawn itself.

Last year this same lawn was used as a threshing floor for a very rough and old piece of matting and a door-mat or two which lost some of their fibres in the ruthless process. Happily, there was no need to clear up the mess. The house sparrows descended instantly, like beneficent harpies, and bore off most of the stuff, however long or coarse the threads, to their nests in the adjacent gutter. These engaging but troublesome birds have a regular habit of movement. They descend from the gutter to the lawn, from the lawn to a tank of water, just over the red wall, and after wiping their beaks on the guttering fly off—often to the poultry yard—to fetch building material. It appears to be thirsty work. One of the company, with some morbid strain perhaps, has attached itself to a thrush. Wherever the thrush goes—



A. J. Rooker Roberts

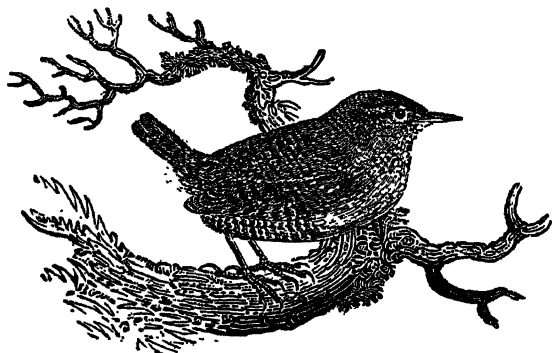
LONG-TAILED TITS FEEDING THEIR YOUNG

and it is very fond of the lawn—the sparrow goes at a foot or so of remove ; and appears to examine each hole that the thrush has punctured. Years ago, in Hyde Park, I watched a blackbird for an hour or so vainly trying to shake off a similarly bothersome sparrow, which clung to his neighbourhood in tree, bush, or on the ground with apparently meaningless persistence.

One ought to keep a record of the lawn birds. I know a garden where even green woodpeckers and greater spotted woodpeckers cannot “ keep off the grass ” ; and if you throw a little food there, or, at the right season, bits of building material, you may draw even nuthatches. For bird-watching in such a place you need no “ hide.” The great eye of the window of the house has no terrors for the garden birds ; or, indeed, for such furtive visitors as the moorhen or such timid birds as the wild duck, who before now has brought her brood there from the little neighbouring river. When the opening of a French window disturbed the mother, the ten babies all ran into the house, and were collected with difficulty, one from the mouth of a cat, before any harm was done. I have recently solved on the lawn a little, a very little, though vexed problem in natural history. Idly from a desk I was looking at the usual blackbird, very glossy with a very yellow beak, running about this way and that, at as abrupt angles as a water-beetle. He made one vain dab at a supposed worm, whose hole was filled up with the whitened half-pod of a laburnum seed-case. Then of a sudden he caught sight of a dried bent lying loose. He rushed for it, and was off in a streak in the direction of the nest. Now, some of the wisest observers have averred that the cock of this species gives no help in the building ; and though this libel has been denied by others, the case is regarded, I understand, as

not proven. I did not see this particular cock help his hen to weave the bent into the half-finished nest, but he must at least have momentarily nursed a desire to help. The character of the cock bird may be considered white-washed to this extent.

The lawn tells you what birds are building, and gives a hint of the place of the nest ; but for those who want to help as well as discover the great opportunity does not come till the swallows and martins arrive. Many a "happy countryman" has taught his swallows to take feathers almost from the hand. He has only to stand on the lawn in the neighbourhood of the favourite eaves and toss delicate feathers into the air. If the building rage is strong on the birds ; if the date and hour are congenial, they will dive at the feathers almost as soon as released ; for no bird, I think, builds more quickly, breeds more quickly or repeats the work so many times within the same summer. The wren alone, perhaps, constructs more nests. But of these many are never more than half finished, and are built by the cock bird alone "merely for wantonness." He is as famous for excessive zeal as the cock blackbird is—perhaps falsely—notorious for utter idleness ; and surely a bird which sings supremely (has he any peer ?) may be excused for finding his art sufficient.



APRIL

*Millenary Thrushes—Birds versus Flowers—Ewe and Lamb—
Where they Sleep—Restocked Rivers—The Green Hand—
The Faithful Raven—Tired Travellers*

I.

WE shall all guess the approach of the millennium by different signs, according to our various tastes and interests, as Charles Lamb prophesied it for the date when “antiquated virginity” should be spoken of without a scoff. Personally I shall be a millenarian when an early blackbird shall sit securely on five eggs in a nest built for all to see in an open hedge by the school playing field. Every March in an early year, every April in a late, the thrushes and blackbirds set their solid nests where they are hardly less conspicuous than the rooks’ nest in the elms, or the magpies’ in the “bullfinch” hedges; and much more vulnerable. Every year these nests are harried; and the birds go on building others till the opening leaves force on them the secrecy, sought and found by most birds at the outset, but utterly scorned by the tribe of thrush. This spring, and before it, they seem to have even exceeded their normal optimism; every single nest that I found was robbed later.

This unwarranted confidence is a phenomenon that becomes more curious the more you look into it. You would say that the birds ride for a fall by instinct and volition, both. The nests are exposed not to one but to all dangers. They are so visible that you see them from

a car travelling at a high speed. They are placed fairly near the ground (I have found both thrush and blackbird *on* the ground) and rest on supports solid enough to act as ladder for any rat or weasel. They are as open as a dandelion flower to the shrapnel of rain, hail and sleet, and cannot be closed, like the flower, when the sun retires. For this reason alone, especially in snow, a good many nests are deserted before they fall to the assault of the human harpy. Even the sitting bird is not safe. In a neighbour's garden one was seized from her much advertised nest and carried off by a brown owl before the eyes of the horrified gardener; and such a fate befalls a number in town and suburban gardens now that the owls multiply in these congenial surroundings. Nothing is protectively coloured, not bird, or nest or egg. The blue of those thrushes' eggs, "candid as the skies," appeals irresistibly to the artistic sense of many a thoughtless robber.

I know one dog, a Russian retriever, that cannot resist them any more successfully than a boy, and goes a thrush-nesting on his own. As for the blackbirds' eggs they vary so strangely in marking and in groundwork that some oölogists are tempted to collect them, as they collect guillemots, for the mere sake of the variety.

The sum total of the thrush's instinctive self-sacrifice, of suicidal optimism, is not yet complete. Should the mother avoid the many dangers she courts, and hatch out a family, she may experience extreme difficulty in finding food enough and of the right sort to satisfy the gaping ochreous mouths of her helpless brood. It is true that some other early birds are worse off, especially wild duck, whose brood habitually suffers short commons, if not starvation, when the parents nest, as often they do, before the time. The thrush tribe forage well, but the

earliest broods find life very hard if spring is at all wintry. Missel-thrushes come off better. Their eggs are almost as salient as a kestrel's, their nests, too, are big, and the site is the most solid possible ; but because they build higher, they are less conspicuous, and safer when seen. The human boy is observant, but he sees much better what is below the eyes than what is above. One missel-thrush near me has built in a leafless tree (a balsamic poplar), close beside the road, at the approach to the village, and wholly escaped the enemy that has sought out every humbler thrush and blackbird.

Thrush and blackbird multiply, nevertheless, not much unlike that yet more obvious nester, the house sparrow. Their zeal, what some have called their philoprogenitiveness, drives them to precocious home-making, as his energy drives the cock-wren, who, almost alone among birds, builds merely for building's sake. But it also drives them to successive nesting. A pair of swallows, which could not start till late April, and whose young must be strong enough to fly 3,000 miles in October, reared four broods under a neighbour's eaves in 1928. How many times a blackbird will build nobody knows, but the pair will go on and on until success is assured. It was surprisingly proved among the guillemots that organised robbing of the early eggs, with protection for the late, greatly increased the colonies. One would not like to suggest that the nest-robbing boy is an unconscious preserver ; but while we pity the wasted labour of our too trustful thrushes, we may qualify our regret with the thought that it does much less harm to rob an early nest than a late. The penalty for breaking the close season should be progressive, if the punishment is to fit the crime. May and June are the months that matter most ; and then the kindly leaves, the springing

blades, give a surer protection than any cordon of police.

Of the two, the blackbird is no more careful than his cousin, the song thrush. The nest is bulkier and more often put in an open hedge, where no evergreens are. The birds ask to be noticed. How they shout with hypocritic alarm when disturbed, how they laugh and crow in the evening ; and the sitting bird varies between panic and a confidence that are both destructive. I have stroked a hen blackbird on the nest, but more often seen her and heard her fly off with a clutter that proclaims the presence of the nest. She has not the smooth dive of the song thrush when disturbed, and is too seriously alarmed to sit close any longer. Her one compensation is that the inborn confidence brings her to the neighbourhood of our houses and sanctuary of our gardens, where we could spare any bird better than her orange-billed mates. No song in the list—not blackbird's, nightingale's, or lark's—is so liquid, so near what we mean by music, so fit to be chosen as the herald's trumpet of the millennium.

2.

The yellow crocuses, those golden goblets of the spring sunshine, lie in bits all over one garden, but hold their cups open to the bees in another ; and in such an April the contrasts are peculiarly inexplicable. It has been their fate each year for a number of years. Every spring one frustrated gardener fails to “ beget the golden time again,” though his envied neighbour succeeds. He is routed by the harpies—*nec saevior ulla pestis et ira deum*, if we may use such strong language of the domestic sparrow. Like Robert Bridges's cows, he

robs the golden market of the bees.

Yet not every sparrow is a Celaeno. There are sparrows and sparrows, as there are gardens and gardens. Even the same town, or country parish perhaps, may harbour distinct colonies of goats and sheep. To give a quite precise example, it has been observed over a series of years in Oxford that the sparrows of the North, notably in the sheltered academe of Somerville (where observation of birds and plants is an honoured pursuit, even among the mightiest), have acquired a perverted taste for the yellow crocus. There the gardener as vainly plants his crocus bulbs as the Trojans laid out their lunch in the land of the harpies, whose faces were as the faces of maids. Yet crocuses flourish quite near by in southern Oxford. You may see—again to be precise—a host of golden crocuses dancing unchecked in the sun in the gardens of Magdalen College School, across the river from the Botanic Gardens. There and thereabouts, the harpies hold aloof. The sparrows have virgin tastes.

All over the county are gardens, thus immune, and gardens thus susceptible. An Oxonian theory is that sparrows only take to crocus food in colonies which have learned by accident that the crocus is good to eat, even as our remoter ancestors found value in the flower of the cabbage. The purple varieties of crocus are more or less disregarded. Clumps of the daintiest of all the crocuses, clumsily called *Thomasiana*, lose not a single petal. It is, of course, possible that the sparrow is affected by that wide and general vice, the *sacra fames auri*—the accursed hunger for gold; and cannot keep his beak off the gilded petal. But if this were so, it is odds that not a gold crocus in the county would be exempt; and, indeed, such flowers as the marigold, or even daffodil, would be similarly treated. The most probable explanation is that the gold crocus possesses a

sweetness, a savour not belonging to other sorts ; and that certain groups of birds only have made this discovery. From other groups the secret is as yet beneficently hidden. It goes almost without saying that the quick-witted Cockney sparrow was one of the first to discover where sweetness is to be found. Go watch him in St. James's Park. Is the crocus, white as well as yellow, of any London park exempt ?

Sparrows are not the only harpies : the genus has many species. Let me record the fortunes of another bed of spring bulbs in a very lovely English garden remote from Oxford. Before the green-tipped spears began to thrust the mould aside the lawn was scattered, not with golden petals, but with the white layers of the unburied bulb. The sparrows are anticipated by the harpy pheasants. These birds devour three forms of food in the garden : yellow crocus bulbs in the beds, not, it must be noted, purple, buttercup bulbs in the cut lawn, and the petals of anemone fulgens. It cannot be said that their inclusion of the one weed in their garden dietary is compensation to the gardener for his ruined bulbs and petals. The crocuses have another enemy ; and he, too, prefers the yellow variety. Along the bed where the pheasants pulled the bulbs to pieces, were caught this year—though the bed is quite small and narrow—no fewer than seventeen mice, drawn there, as was proved, by the same succulent bulb. The evidence would seem sufficient to establish the truth that the yellow crocus has an agreeable taste, a more agreeable taste than most other bulbs. Will not one of our clever florists, or men of science, breed a crocus that tastes nasty ? The problem may be suggested to the Mendelian garden by Wimbledon.

Our gardens, being sanctuaries, may be expected to teach birds new habits ; though, perhaps, critics are apt

to generalise too easily and suppose that what one bird does another does. But anywhere, bird or mammal may discover individuality. The species we have encouraged more than any other is the race of tits, especially the blue and the great, the "siggy" and the ox-eye, and I must believe that the free supply both of nests and food has shoved forward the nesting date in favoured places. The pampered garden tit has become here and there—and I think within the last few years only—as early a bird as the robin or thrush. They nest earlier by weeks—such is my experience—than their own ancestors or the wilder birds in the woods. The garden that I know best is cut by a river; and the river is populous with moorhen, who, being pedestrian birds, much enjoy the lawn-like grass of the orchard. Their patrols across it have taught them the new art of eating fruit; and they have become for the last two years as greedy devourers of wind-falls as thrushes, blackbirds, or starlings. In this garden all flowers are exempt, except that the tits, and occasionally the sparrows, play with the petals of the pears, and with the finches eat the plum buds before they break.

3.

You can hear the clamour half over the parish: the bass commands of the ewes and the soprano agitations of the lambs. It is the evening hour, when the wooden troughs are being supplied with bran and crushed oats, and those who are late at the feast are likely to starve, as most of them know very well. For the grasses are a uniform dove colour. The coarser tussocks, which even the hungriest sheep will not browse, stand up almost white as oat sheaves, from a surface hard, close and napless, with no more than the faintest suggestion of green.

So the migrations to the troughs through the gaps in the hedge are quick and eager. In such weather I have seen French shepherds lead their flocks through the woods, pulling down as they went the long climbing shoots of ivy, on which the hungry sheep fell greedily, as if so hard a fare were a treat indeed. Did ever English shepherd fall back upon such a diet for his flock? Not, I think, in the Home Counties.

It is a liberal education to tend, or, indeed, to watch a lambing flock at the season of births; and, indeed, shepherds, as a class, acquire a serene philosophy, a maternal instinct, an affectionate insight that gives their character a peculiar quality. They are taken quite outside themselves. The welfare of ewes and lambs is all in all. Three at a birth is a greater event than a Locarno Treaty or a milkless mother than a disastrous earthquake. When you stand amid a flock at such a season, you soon cease to wonder how the shepherd knows every sheep by sight, at any rate, if the flock is like this of mixed origin, in which Suffolk and Border Leicester are combined and the lambs are fathered by Scotch and Southdown rams. What little aristocrats are the young Southdowns! Though mongrel, they keep the neat coats, the mouse-like masks, and trim contours of their sires, easily distinguishable, even by those who have never seen a sheep before, from the queer medley of other lambs, most of them ludicrously pointed with patches of black in any sort of pattern on face and body and legs. Nor do they indulge in quite such facetious skips and jerks as even the youngest of the tribe is apt to attempt almost before he can walk with any direct steadiness.

The shepherd was pleased, in spite of the difficulty of feeding his flock. The dry cold days had brought perfect

health. Two days after the drastic but now bloodless surgery that they must undergo, all signs of weakness had vanished. The ewes had done their duty. Two that hold the palm had produced triplets. One family was scarcely twenty-four hours old, but the three midgets tottered proudly after their proud mother and refreshed themselves with the gymnastic vigour that is peculiar to lambs from their earliest moments. As in a bank-holiday crowd parents and babies became separated on occasion to the distress of both ; but old and young show their feelings after a very different fashion. One tiny lamb ran up to every sheep that came into its vision and insisted on being sniffed. But one sniff was always enough ; and at once the ewe either shoved off the intruder with a sort of tired butt or turned away ; and the rejected youngster tried yet another. It proved an unkind world. The baby did not wail or break down, but began to lose energy and look more and more forlorn as it swayed on rickety legs, tottering this way and that, aimlessly. To be lost in a world of mothers where none is the right mother must be a misery indeed ! The ewe that has lost her lamb at once shouts for it lustily, and if the call has no effect (and with the very young it often fails) she goes off in a purposeful search, raising her head high and repeating the call that grows more and more distressed. The lamb's disregard is unexpected, for on other occasions the response is immediate and almost without exception. If, for example, a dog appears, even the friendliest dog, every lamb comes at his mother's side as hurriedly as chickens to a calling hen. And each seems to recognise at such times its own mother's call.

In this flock were two curious examples of the nature of the family bond. All sheep recognise their own by smell, and apparently by no other sense, though you

would think they must be able also to see the difference. If the scent goes, recognition goes. The other day one ewe and her lamb, which was several days old, escaped from the dry field and were nearly drowned in the marsh and stream below. Help came only just in time, though for some hours the shepherd feared that neither would recover. When his fears were traitors, the trouble was not yet finished. The lamb when cleaned and dried ran eagerly to the ewe, who nosed it in the usual fashion, and rejected it as an alien. This was not Esau, but a counterfeit. Her own proper offspring smelt quite different, and instinct said that test by the nose was sovereign. So the shepherd was faced with the difficult job of reconciling mother and child. He had one other similar task. One lamb that lacked an effective mother was transferred to a ewe bereft. It was natural that the two should solace one another. But it took several days of laborious tact on the shepherd's part before the ewe would accept the little stranger and give play to her own maternity. It is strange. Often the passion in a recent mother is so strong that she will mother young creatures of a wholly different genus : a cat will nurse young rats, and a hen—as in a recent example—brood young puppies. Yet a sheep, though heavy with milk, must have her own or none. The obstinacy is, perhaps, correlated with the habits of the herd, in which utter confusion would reign if there were not a tight parental tie, knit by some half-mystic sign of affinity. Who shall say? Certain it is that the mother desires only her own, and recognises her own only by smell. It is the oldest of a shepherd's devices, when one lamb dies, and an alien is transferred to the grieving ewe, to wrap the impostor in the skin of the dead. It is rare indeed for the kindly fraud to fail. Jacob was certainly a shepherd.



SHEEP ON A CUMBERLAND FELL

4.

A friend who is a careful naturalist has denied that frogs hibernate under water; and he has found supporters. So I would put on record a very common experience. One of my neighbours, living in a sort of suburb, has a garden pond, in which he much delights. It is small but embowered with flowers, which flourish peculiarly. The pond was cleared out in winter and just over forty frogs removed with the slime. Being humanitarian he instructed the gardener to remove them to a meadow some six hundred yards away, for his house was at the edge of the suburb. He is one of those who detest the frog; and it must be confessed that they give the least pleasant indication of spring. They die and are killed and leave our ponds gelatinous with unlovely spawn.

Now the re-appearance of the frogs, though one of the most punctual and obvious of the signs of spring, is accompanied by many symptoms generally regarded as uncomely to say no more. The victims to a too sudden and energetic revival are many; and since suitable nesting places, so to say, are often few, favourable pools become positively "colloidal"—a favourite word in the mouth of biological professors—with jelly and spawn, from which emerge tadpoles in so many thousands that you might almost believe in spontaneous generation.

Even Shakespeare, who had a preference for beauty, found the toad "ugly and venomous" before he discovered the compensation of its "precious jewel." The frog is not ugly, and is not venomous as the toad is: and its population is vastly larger. Yet its hibernation remains, so it seems, a mystery not paralleled in any other

creature, however rare. Now the toad has no mystery. Everyone has found him in winter quarters. He goes well away from the water—indeed so far that he has a peculiar fondness for the wine cellar. We find him—to give particular examples—in the hole made for a tennis post, under the half-lifted roots of a pear tree (a retreat shared one year with a newt), behind the stones of a flint wall, at the back of a water butt. Most of us have watched the migration to the water usually made in as straight a line as a bee could fly. The primal element, if the word may be incorrectly used, calls him with a directional message beyond our power to trace. The toad is a deeper sleeper than the frog and often takes a good month more of rest. When the dates of emergence of the two more or less coincide, there is sometimes internecine warfare between the queer cousins.

The frogs, of course, always seek the water in spring ; they were the first class of animal to emerge from the fishy stage. I watched one peculiarly large creature this spring crawling along the bed of the stream and changing colour as he went. From a dark jaundiced yellow the colour brightened into green, like the leaves of the weeping willow over his head. When spring is past they leave the water and our gardens are suddenly full of them, hiding under any plant or tuft or stone that retains moisture. Do they or do they not, when winter approaches, return to the ponds and streams and winter under the mud ? The answer is that some of them do, without any doubt whatever. The suburban gardener was not himself interested in this particular problem. What annoyed and interested him was that quite as many frogs as he had exiled returned to his pond in April and half solidified the water with spawn. Had the same animals remembered their home ?

Most creatures have their favourite "pitches" for the winter. To give personal experiences, bats enjoy dusty roofs, but are also fond of rotted wood (as in hollow willows); and the bigger bats may be often found among the snails in heaps of stones. Hedgehogs prefer ditches, but will often hide in the mossy holes left in the snags of coppiced wood. Dormice will secrete the ball of bents in which they involve themselves in any place that is under cover from the worst of the rains. Squirrels, of either colour, half-hibernate in the special "dreys" high up in the trees. Bumble bees like a hole in a bank, queen wasps particularly enjoy the hollow beneath loose bark, but, like ladybirds, enjoy houses and the many crevices they offer. Flies, we know, will winter in companies under the insulating bells on telegraph poles, and are generally to be found behind any loose bit of paper in an attic or half-deserted room. But what of the frogs?

They have, I think, a catholic taste in sites; but personally I have never found one far from water; and for this reason, perhaps, one sees fewer frogs than toads making their bee-line to the water in spring. The most dangerous moment in hibernation is the awaking.

A bumble bee, large and stupid, stood on the edge of the path trying to remember how to fly and what the world was like. She had just crawled out of a hole in the bank where she had lain snug and sleepy for the better part of six months. When the sleeping beauties awake they must get in touch with the world again almost as a seed must germinate or a rootlet sprout. The weight of six months of sleep is not to be shaken off lightly or in the twinkling of an eye, or life to be as suddenly renewed. Thirst and hunger and then other and finer desires knock at the doors of the senses, which open at first

reluctantly ; indeed, if the days are colder than the date warrants they never open ; and since vitality is very low, euthanasia is preferred to unwelcome energy.

The dislike of getting up—to put no finer point on it—is almost ludicrously perceptible both with the bumble bees, if you happen to unearth one, and with frogs and toads. One frog, disclosed by the removal of some slates leaning up against a wall made almost petulant efforts to get back again into the dark, though it was high time to be abroad, and the first spawn appeared in the ponds and slack bays of the river a few days later. As to the bumble—a fine *bombus terrestris*—with black as luminous as in a Velasquez portrait and a daffodil tail—he would have died but for the warmth of the human hand, which is a great reviver. I have seen the life of several baby squirrels saved after they had been despaired of by the agency of milk offered in a warm palm ; and you may so revive almost any frozen insect that has life left in it.

5.

During the War the trout, which had been many and fat, quite disappeared from a number of rivers, including the upper reaches of the idle Lea, that “ oft doth lose its way ” as in the days of Spenser. Some said it was from the roads, some refuse from a rubber works, some the return of the pike, some the excess of heron ; but in truth the river, like others of its kind, needs kindly attentions. They do not clean their clear courses like the streams of the West, like the Wye or even the Arrow, and they become half choked with weed and oozy mud ; and the trout cannot breed, though one or two veterans may live. Yet it is a lovely stream ; and eager fishermen regarded it as a lost Paradise. So baby trout were

enclosed in a cage and fed with liver from the village butcher's shop; and flourished at least enough to prove the waters free from poison. After a year's trial of these pioneers (who escaped before the trial was quite complete) a tankful of trout big enough to show their spots was tipped into the brook, to join the dace, roach, gudgeon, and three-spined sticklebacks that already abound and need no alien immigration. Flies will be cast for these fish in their first year of unfettered freedom: they were, indeed, enlarged expressly in order to run the gauntlet, and because fishermen were in a hurry. This is the month, not only when fishing for fine fish is permitted and becomes popular, but it is the season when food in the river becomes plentiful, when the multitude of fresh-water shrimps, snails, and crayfish are increased by fly and beetle emerging from the hidden or protected cases on the bed and lower part of the banks. The biggest fool of an immigrant—in the Lea, though not in some neighbour streams—can maintain life, and what is more, increase his size beyond the twelve inches that was his defence, since innocents of under a foot are not murdered.

In the next valley trout are bred *inde ab ovo*—from the egg and the little egg-sack that clings queerly to the birthling. They flourish and increase in size, when food begins to abound, at an Alice-in-Wonderland rate. But they have many enemies. Of all the birds that fly or animals that run, the heron—with the exception, perhaps, of the vulture—appears to possess the most intuitive sense of the presence of food; and is not the least persistent in its pursuit. I knew a vast pond in Essex that one summer teemed with fish—much sillier fish, of course, than trout, who are attuned to the liveliness of the rippling currents that they love. They began to disappear as

mysteriously as chickens near a magpie's nest—and there were not a dozen left when their owner, looking from his bedroom window one sleepless morning, saw a still grey post, as it seemed, flash into motion, snap up a fat chubb, and, having well breakfasted, float away on the slow oarage of his great wings. No event in the destruction of birds more shocked those to whom it was reported, than a water-warden's report that he had shot over six score of heron and a small tally of kingfishers. From where in the world did a hundred heron gather to one hatchery that is nowhere near a heronry ; and how did the birds discover where this store of food was to be found ?

Happily the heron are safe, or tolerably safe, in the valley where the larger fish were released. Nobody in these days shares the belief of that invincible and classic sportsman of an earlier generation who reported that heron tasted very like hare ! Certainly the kingfishers, which are very fond of the river, are safe. They are even highly prized, for their victims are the small coarse fish which devour the food desired for the trout. So, of course, do the heron, with rats, mice, and (if inference from the empty shells on the bank is warranted) the horny crayfish ; and though they are capable of swallowing a big fish, the other tastes should stand to their credit.

It is odds that the immigrant trout make a bee-line for the clumps of water-buttercup, a weed so bright and various that you can watch it with pleasure as you watch the waves of the sea. It grows at a scarcely credible speed. It is as full of light and shade as a cumulus cloud. It sways and swings perpetually, very much as the trout himself, when he is using tail and fin to keep position against a strong current. If you look very close, as a scientist once pointed out, it sways also in another

plane, like a flat fish, and takes up the wavelike motion that first inspired the investigations of Leonardo da Vinci. And it exercises a surprising effect on the current of the stream. On the lower side of every clump, at a yard or two of remove, the surface of the water stays still or even eddies back, as the bubbles of the floating bents announce. A still piece of water is thus sandwiched between two fast streams ; and the fish use this, as gulls use the updraught of air over the face of the cliff or choughs up the Swiss valleys. They make the water and wind eddies their ministers.

The weed, where it flourishes, as in brooks of the Home Counties, influences the stream itself, and the life in the stream, beyond likelihood. Though no rain fall, though the springs in the chalk hills at the source are no more active, the height of the water rises and rises, solely from the displacement of this water ranunculus. It slows the current and occupies space, sometimes so effectively that the frogs, who at this date gather in multitudes to any water they can find, find ponds in the river still enough to hold the spawn. Beneath each clump, if we had the opportunity of the fish, we should find vistas, glades, rides, arbours, and shady coverts and woodland scenes comparable with any landscape, and the sanctuary teeming with various life beyond any parallel anywhere above water. No wonder the trout slide happily into "layers of shade" surpassing even the cedars that suggested the phrase to Tennyson.

6.

An Oxfordshire gardener the other day said of a neighbour whom he wished greatly to compliment, "He has got the green hand" ; and I know a working woman

who has to steal time for the garden work she loves, but achieves feats that the specialists envy because, her neighbours say, she is gifted with "the green thumb." Both live in Oxfordshire; and in that invincibly rural county, as in many others, the English folk are still far enough from urbanisation to use naturally and without self-consciousness the old country phrases, racy both of the soil and the poetry in the language, as when the farmers report of rich and well-tilled land that it is "in good heart." On the Continent that great agricultural campaign in favour of the smaller holding and the more intensive cultivation has been christened and is normally spoken of as "the Green Rising"; and in this case the phrase has proved persuasive enough to exercise a strong political influence: it expresses itself. "The green hand" is, I fear, vanishing; and on that account, perhaps, the more worth some emphasis. It is too good to die incontinent.

That some people do, in fact, possess the green hand can scarcely be called in question. Its influence is not less apparent than the effects of "the healing hand." It was said of one great doctor that patients grew better from the moment his hand was laid across their forehead; and you see plants similarly flourish when some plant physicians attend them. The seeds these happy people sow germinate in profusion; the cuttings they take strike root; their grafts and buddings consent at once to a lively co-operation with the wild tree. The bulbs they pot produce blossom as well as leaf. Their pruned roses do not die back at the tips. Their transplanted roots confess to no check. The possessors of the green hand can no more impart their gift than the alleged water-diviner can teach the hazel-fork to writhe within an unsympathetic grip. That they possess any

mystic faculty we need not for a moment suppose, but their sympathy and insight and touch combine into a quality that is altogether too subtle for analysis or imitation.

We have all seen examples that excite our wonder. A cyclamen in a pot in a room flowers and falls into the sere and yellow leaf; or a little sham orange bush yet more fatally decays, or so it seems, and is yet more ruthlessly condemned to the dust-heap, without thought of the promise of any resurgent Eastertide. This is the common fate; but one finds a plant-lover here and there who refuses to believe in this easy belief in extinction. A healing hand is laid on the cyclamen. It is dried off. It is planted out *sub divo*; and when the divine touch has been exercised, it is taken up again fondly and carefully. See it this spring, fuller of flowers—each with petals drawn back after the pattern of the wings in the famous statue of Winged Victory, fuller of leaves—each printed with the watermark of its mysterious hieroglyphic—and the whole plant flourishes more robustly than ever. So, too, the little orange-fruited shrub. It did not altogether die, but has risen again in a group of cuttings, each promising fruit.

Such gardeners often quite disregard half the established rules of good cultivation. There is a gardener living in a yet more rural county than Oxford who will graft you a pear or apple in any month of spring, summer, or autumn, without any of the ordinary preparation or laying by the heels of his grafts. The best budder of roses that some of us know refuses to withdraw the sliver of wood behind the bud and is disappointed if five out of a hundred buds do not take. An old farmer in the Home Counties, who, unlike most farmers, enjoyed the garden, professed that his hand was green only on Good

Friday. He had noticed that his grafts made on this day always flourished. He explained, by no means mystically, that on this day he was not interrupted and could concentrate as the job deserved.

You may see the equivalent of this green hand in other activities than gardening. The keeper of the biggest bird sanctuary in Britain handles the nests of even the shyer and more sensitive birds with an apparent roughness that dismays most observers. He will pull the grass away from a redshank's well-hidden nest, pick up the eggs, enlarge on their markings, and when they are at last returned to their place, give the concealing grass-tuft just one careless rumple ; and that is all. But it proves enough. The bird is back on the eggs before he is out of sight. He scarcely knows what it is to have a bird desert. Again, there are bee-keepers with a like power. They will move among their bees or even handle their bees as a snake-charmer his vipers, without any risk whatever ; and it is odds that these bees flourish beyond the common experience in other hives.

This happy power comes doubtless from nicety of touch and perception of

The little more and how much it is.
The little less and what worlds away.
How a sound may quicken content to bliss,
And a word suspend the blood's best play
And life be a proof of this.

The life of the plant is the proof of the patience and delicacy of insight. But these in turn form a deeper gift. You will always find in the possessors of the green hand, if my experience is the general experience, that they have a deep and intense delight in their craft. They exercise "the deep power of joy" they enjoy so much that they

prefer to draw out "the linked sweetness." The bee-keeper does not hurry ; and quietude is half his secret. Pleasure and patience and affection work the miracle. How could a man who loved his trees in the spirit of Hardy's woodlander fail to lay out the roots just in the way they would most quickly form contact with the soil ? Indeed, it is very difficult even for those whose hands are green only on rare Holy Days not to personify the plants they touch and raise them almost to human fellowship. It is foolish ; but there it is.

7.

Anywhere to-day on the Western Coast you may discover that the raven has become a common bird ; and he spreads steadily inland. I have watched the nesting birds on the cliffs by Aberystwyth, in a Devon grove and on a solitary tree in Herefordshire. They are early birds. In the nest on the Cardiganshire cliffs the four young were ready to fly on April 16. I watched thereabouts a nestful of ravens. As we sat on the edge of the cliff looking down on the nest, we could see how restless the four young were growing. They were fully fledged, and except for the metallic sheen, black as night. They elbowed one another about the nest, and it looked any odds that one of them would presently fall over the edge. The wind was high. The nest, which had no obvious foundation, bulged out from the altitude of the precipitous cliff and had the appearance rather of a platform than a bowl. Yet these nestlings were as safe there as larks in a snug tuft on the ground of a common in the Home Counties or thrushes in a garden bush. Their instinct is their safety. They are securely "involved in their own virtue."

On the cliffs thereabouts are five ravens' nests, not, of course, all occupied. The raven has the simple, sanitary device of migrating from the brown bed to the blue, like the Vicar of Wakefield. The pair, who live long and remain faithfully monogamous, give the weather a year or two or three to cleanse the disused nests, which, when wanted, become, with a little repairing, as good as new. It is a pity that the principle has one defect. These great, solid structures, these empty houses, attract other birds. The ravens might croak to one another a *sic vos non vobis*. On this particular cliff within the last year or two a pair of buzzards and a pair of peregrines have taken advantage of the ravens and brought up families in two nests that were lying fallow. This is the more curious as these great birds seldom, if ever, interfere with another personally. While a peregrine will not build near another peregrine, and all the three are more or less particular about defining their own territory and prosecuting all trespassers, none minds the proximity of the other. Raven and peregrine, at any rate, often nest almost cheek by jowl, and nothing said. There were nests one year on the Pembrokeshire cliffs not one hundred yards away from one another.

The use of deserted nests by species different from the builder is not, of course, very rare. I saw last year, as recorded at the time, a great tit building in the base of an *occupied* buzzard's nest. I know instances of tits building in the structure of rooks' nests. I once found a pigeon's eggs in an abandoned magpie's. Wrens will occasionally adapt a thrush's nest as foundations for their own. There are examples of birds leaving clutches of eggs—as if they were cuckoos—alongside another bird's clutch; and old nests are freely used by mice and bumble bees. But in my experience (not very wide in respect of the greater

hawks) it is not common for either peregrine or buzzard to borrow from the raven. In regard to this particular nest of young on the cliff it was a rather surprising experience to see a peregrine sweeping past the nest and back again, though we waited in vain for a sight of the parent ravens. The finer spectacle was vouchsafed to us. There is no flight at once so swift, so easy, and so individual as the peregrine's. It has the hovering pauses of a butterfly with the directness of an aeroplane.

These Welsh ravens flew in April in a year when most birds had been late in building, and eccentric. The black-birds preceded both thrush and robin, in my garden at any rate. To the raven, among the earliest of all builders, except the crossbill, no season makes much difference. Its stark constancy does not regard the almanac. It is spring on the face of the cliff when the parents decide to make it spring. I suppose one contributory reason for the earliness of the raven is the slow development of the young. They are born from a comparatively small egg (though not relatively so small as the cuckoo's), and mature slowly. You may have the pleasure of watching them for a good six weeks in the nest. Their race multiplies in the West. They spread inland. It may be that these four young from the home on the cliff will one day be building homes of their own, not on cliffs, but in trees as far east as Herefordshire.

A small bird, whose appearance in Cardiganshire at the same date astonished me, perhaps unreasonably, was the purple sandpiper. A group of about ten fed daily at high water on the shore at the very centre of the town of Aberystwyth, in the corner made by the pier and the most popular parade. It was trustful of them; and is, I fancy, a not uncommon stopping place on a migratory route.

8.

The swallows reached Hertfordshire that Easter Day, about seventeen days later than they had arrived at Hyères. It was interesting to be able to migrate with them ; and one difference in their appearance on the Côte d'Azur and the Hertfordshire cottage leapt to the eye. That March day in France the arriving flocks were obviously in a state of utter exhaustion. You could tell it from their very mien and attitude ; and each bird as it arrived perched for rest on the telegraph wires. It is quite difficult for many of us to imagine tired swallows. You may watch them for a day and detect no sign of any desire to perch or to reduce the sum of continuous activity. If they must gather a mouthful of mud for the nest they do not even then stay still ; but flutter like a humming bird moth in front of a flower, while they work. They are hardly less still when they hang to the side of the nest to feed the young ; and of course gather all their food while on the wing or fluttering up against the wall of the house for spiders and flies.

Inland we never see a tired bird, unless it is a chased moorhen or perhaps a corncrake that overestimated its westering powers ; and we come to regard other birds almost as Pacific gulls that may for all we know roost on the wing. Nevertheless, most of our birds tire soon, and the very best fliers, such as swallows, are often worn out by the ecstasy of the migration flight, though perhaps the weariness may spring less from the muscles of the wing than from want of food. All birds need food often ; and starvation is their primal enemy. They may conquer an adverse wind with their powerful oarage, with the tireless *remigium alarum* ; but delay and abstinence may be fatal : their vivid being needs constant renewal.

During the spring migration of 1931, some lamentable records were taken of the tragedy of weariness. The island lighthouses along the west coast were beset by small birds, seeking somewhere to rest their feet, and, confused by the brightness of the light, numbers killed themselves and fell on to the rocks and into the sea; but much greater numbers fell into the sea on their way from the lighthouse to the land. A great many lighthouses are now provided (by the kindly efforts of the R.S.P.B.) with perches; and these doubtless save the lives of large companies of tired and strayed birds. But these are not a sovereign remedy. Lighthouse watchers, as indeed do most people who live on the seashore, continually see examples of almost desperate weariness.

One of the most charming of tales about birds tells of the wren who won the high-flying competition for the lordship of the air by sitting comfortably on the back of the soaring eagle. It is fictional, but not bad natural history: examples that sound authentic have from time to time been recorded of such small birds taking a lift. But the majority must trust to the tiny paddles of their wings; and it is by no means a rare experience to find the bushes by the shore as thick with small birds as the prairie bushes with flocks of finches in North Australia. Golden-crested wrens, just landed, are often so worn out by the brave journey that they are no more shy than butterflies. You may pick them like berries off bushes on the Yorkshire coast. It is not altogether rare to come upon birds that, having made the final effort to reach the shore, can do no more, and allow themselves to be caught by the hand. In one historic instance a covey of partridges, blown, it is supposed, by a strong wind from the cliffs of France, were picked up alive, but helpless, on the south coast of England.

Most of the migrants, unless they meet with some accidental mishap, have power and stamina enough to reach their goal. Nevertheless, so far as one can see, a certain number of the birds that perish within sight or reach of the island lighthouses have not suffered any physical injury. I wonder if they do not die of "hope deferred." The light on the rock gives them the expectation of land and rest. It breaks that half-mesmeric state, which the impulse to migrate certainly inspires, as more than one keeper of migrant birds has proved. When the right date arrives they change almost as a broody hen changes; and we may suppose that some of the longer journeys, at any rate, are completed in one strange, unbroken mood. Interrupt this, and the spirit fails, the weariness becomes conscious, the effort is surrendered.

It is curious how often the chief surprises of bird migration occur during a long and steady east and north-easterly wind, such a wind as has darkened our sky and crinkled our skin during two weeks of this very February. The red-throated diver happens to be among the birds of mystery. In the whole of the literature of birds, I know no passage (except Seebohm's account of wild geese arriving in Siberia when winter breaks) which appeals more nearly to the imagination than Gätke's tale of the red-throated divers who flooded the sky, one December day in 1879, as far as his eyes or telescope could reach from his observation post on Heligoland. This solitary arrival in East London is as hard to account for in its degree as that illimitable flock of a comparatively rare bird flying, as it then was, *against* the normal line of its migration. And the bird is fearfully and wonderfully made. Most visitors to London parks have contrasted the ludicrous clumsiness of the swans, black or white,

when they come to walk on land with their facile grace when they swim. The diver is yet more narrowly adapted to the life on the water ; it can scarcely walk at all. Its legs are set as far back as a steamer's propellers, and even on land it usually proceeds by shoving the narrow keel of its body along the ground, toboggan-wise. But it can outswim a fish below water, and fly almost as powerfully as a duck.

I suppose England is rather short of water in the form of lakes and marshes and lagoons. Once it was not so. Not even Gätke and Seeböhm make the mouth water more certainly than some of the old chroniclers of Crowland Abbey and its neighbourhood, before the time of Hereward the Wake. It was written in 1070 : " The meres and stagnant pools swarmed with tench and carp, nor is there less plenty of waterfowl and for a single half-penny men can have enough for a full meal. . . . It was also facile to snare the crane, the heron, the wild-duck, teal, and the eccentric and most savoury snipe ; the swallow-kite, the swarth raven, the hoary vulture, the swift eagle, the greedy goshawk, and that grey beast, the wolf of the weald."

Those haunts are, to-day, rich cornland, or almost market gardens. Whittlesea Mere is no more, though the snipe have not wholly deserted the Fen country. In September they rise strangely from between the rows of potatoes, if they are often indiscoverable at later dates. The London reservoirs have taken the place of such ponds and meres. If you fly bird-like over London, its white spaces of water gleam like immense eyes, more salient than streets or houses or parks. They attract the water-seeking birds more and more. Though millions of people and houses encircle them, they are sanctuaries, nevertheless. No enemies are found. No

peregrines stoop from the upper air, nor pike lurk in the waters. Small fish and molluscs are found to be in abundance. The waters are many and spacious, nicely spaced for the short "fighting" movements that are congenial to all the tribe of duck.


When hostile airships sought London they guided their course by the shiny waters of the Thames. It is my belief that some birds do much the same. Little birds will be arriving in London at the time that many of the big birds leave it for their breeding homes. One spring morning—to record an old experience—you may hear the tentative whisper of the early migrant from the flowering almonds on the river's edge at Battersea Park. It is at least likely that they travelled up the river, and "stopped off," as one idiom has it, at the first congenial country. In that beautiful park you may hear, high overhead, the creak of swans' wings, about to plane downwards to the lake. You may watch the grey herons standing still and watchful in the creeks, and if you are very lucky, hear your first migrant warbler at as early a date as the villagers of Selborne.



MAY

*A Comparison of Springs—The Bittern Booms Again—
Frost Influences—Competing Nightingales—Oxford Gardens—
A Gull's Nursery*

I.

UR English gardens are epitomes of countries all round the world, though for some unknown reason we omit the Australian flowers. Why? Have we proved that the kangaroo foot and the blue bush will not accept our climate? But it is only in the colder countries that spring comes as a sudden miracle, though in some spring hardly exists. It is, for example, the least attractive of all seasons in Eastern Canada, and the colder the country, the more numerous and more lovely the flowers. This may be taken almost as a categorical truth, a maxim of as general an application as any of Kant's or other philosophers.

Let me compare some of the various springs. In the Balearic Isles one of the first flowers to bloom, as is fitting in a country where more of the surface is stone than soil, is a light mauve cistus or rock-rose; and you are likely to find in its neighbourhood a tall-growing heath, as early almost as rosea. But these do not suggest the spring. Both are upstanding and bushy. The cistus has a big obvious flower—only springlike in its attraction for the first butterflies—and like the heath, its colour rather suggests autumn to an Englishman. The spring is proclaimed, there as here, by the anemone. Our own anemones appear in the woods and spinneys in broad

white pools. In Majorca, the most spring-like anemone is very lovely, appears here and there on a few low wet patches, and is purple with a depth of colour that rivals even the Bridgid anemones manufactured by our florists. A lovelier, lordlier flower could scarcely be ; but its sort is rare in those warm and winterless southern valleys. For the most parts the flowering stems are too proud and great, especially the asphodel, a finely dressed lady not less frequent on the rocks as a decoration than on the cultivated fields as a weed.

One spring flower connects the Mediterranean islands with Australia. Many an orchard, many a roadside, is adorned, or beset, by a plant known in Australia as sour-sop, a wood sorrel as delightful in foliage—except to animals who value green things for their food value—as it is in flower. It is curious how many countries have been invaded by immigrant weeds of spring. Immense areas of Australia are covered with the beautiful—and edible—Cape dandelion and by this sour-sop ; and many Canadian orchards are paved with the gold of the European dandelion. To this lusty race, the most prevalent over the whole world (if we make it comprehend also the hawkweeds), any month may be spring. We have not been invaded in this way in England, unless we have to reckon the American mimulus as a conqueror, but this does not advertise its mastery of our river sides till the year is much older. At the moment the really gorgeous, though common, king cup or marsh marigold is enjoying a splendid isolation in the rushy water-meadows along our brooks and rivers.

It is only in the garden that the English spring can compare in variety of colour with the Alpine. The surface of a typical Alpine grass slope is as blue as an English wood-edge is yellow, though perhaps a patch



J. Dwyer, Staff

APPLE BLOSSOM IN A MIDDLESEX ORCHARD

of celandine will outshine anything, and a field of Lent lilies give out as much sunshine as is good for you.

But the perfection of humble colour is found on once snow-covered hillsides. Even one sort of flower will include many shades. The bell-gentian in the Alps has much the same range as the vipers' bugloss or the lungwort, and the other gentians, especially *vernae*, are wells of colour. The white anemone has been christened *Alpina* ; but the more characteristic are the purple, which has the attribute *vernalis*, and the yet more salient *narcissoflora*. Personally, the flower of all others that appeals to me as most eloquent of an Alpine spring is the dainty, the engaging little soldanella. White and yellow flowers, of course, are plenty—you may see the soldanella massed with the crocus, as if the field were a garden : and the commonest rock rose is not mauve but yellow, as yellow as the lilies that break through the snow among the Canadian Selkirks. Yet what someone called "older colours" prevail : reddish anemones, primulas, blue gentian and forget-me-not, purplish anemones and violas. They compel the starkest traveller into a desire to be a botanist as a rainbow incites to weather-lore.

Yet English people are perhaps the greatest flower worshippers of the world, not excepting the Japanese ; and our spring is the great persuader. A mass of common things compel us to rejoice in the countryside, and we plant in our gardens the spoil of the world. Were not four novelties from the Far East and its mountains welcomed and decorated in one week in London, one of them the gift of that king of the world's travellers in flowers, Mr. Kingdon Ward, who first brought the incomparable *Meconopsis Bailyi* ? We possess in a wild state very many sorts of spring flowers of many hues,

but some of the best are rare, surprisingly rare. From the ease with which it seeds and germinates you would expect the Pasques Flower, one of the most desirable, whether in the wild or in the garden, to multiply itself broadcast ; but most of us have to make pilgrimage to private Meccas to see it blooming in native surroundings. In some counties even the foxglove has been eliminated and the lily of the valley and the snake's head. Though bluebells grow as freely on bare and barren islands off the West Coast as in woods of the Home Counties, a great number of our spring flowers are singularly local. How many of us could find at will the blue variety of that common weed, the pimpernel ? So popular a flower as the yellow Welsh poppy—or, more accurately, Welsh *meconopsis*—has an exclusive preference for particular spots in Devon as in Merioneth. Just at one spot in North Devon—I found it by accident—you may be sure of the bee orchis and it grows in the midst of masses of the Burnet rose. Yet any one may enjoy the flowers of an English spring, for anemone, primrose, cowslip, celandine, the greater (which is a *meconopsis*, as well as the lesser which is a buttercup), kingcup, cherry, black-thorn and gorse leap to the eye in every county of the forty.

2.

Anyone who pleases may go to hear the bittern boom—and grunt—though fifteen years ago the species had vanished. His return is an earnest of the millenium, perhaps. I have a particular recollection of the very spot where I heard the strange sound first. A certain wide dyke amid the Norfolk Broads—a county like none other this side of the Masurian Lakes—is straddled by a high, narrow and very rickety bridge, used by the

harvesters of the reeds that compound the famous Norfolk thatch. The bridge is high enough to give you an ample view over this East Anglian county which nothing can deprive of its charm and wildness. You see the peak of a famous abbey, half-revealed and half-concealed by the white mist blown from the North-East, you see miles of reed and sedge interrupted by dykes, you see the mirror of a neighbouring Broad ; that spurious Saxon description of the lake, the lagoon, the mere of the district. As you stand thus on a spring evening, you become aware of preciser things than the landscape, or than such an "everlasting wash of air" as Robert Browning noted in the Campagna.

Immediately in front of the footbridge, which looks like a stile on stilts (the comparison is, I think, John Davidson's), stands a derelict windmill. It is even more leggy and rickety than the bridge, suggestive of the ruin of some fantastic spindle. You catch sight of a pile of reed-sheaves on the bank of the dyke beyond it, but the mill and the bits of stunted alder conceal a stretch of marsh that holds for the moment the wonder we had come to observe. It was announced suddenly by a noise that must not be described by any more dignified word than croak ; but it was not like other croaks or quacks or gratings or rattles or grunts that you hear from the hidden water and moor-birds when evening darkens. It was the first intaking gasp of the bittern preparing with infinite labour for the "boom" proper. We had heard the broken notes of the boom on another Broad a mile or so away. It is a sound that travels an inordinate distance, like foghorns that were announcing a sea-mist. Indeed, the range is said locally to be a good two miles.

The bittern, like a band at the seaside, prefers to make music, if not from the same fixed stand, yet from the same

patch. He tramples a "pitch" among the sedge and reeds, and thither proceeds for his more regular challenges. How does he make his notes? I believe it to be an entire superstition that he uses water (like the nightingale's instrumentalists in the Toy Symphony) to help out his note. There is not necessarily any pool of water handy to his bill in front of the trodden place where he stands to boom. From one of the naturalists who has done as much as anyone to protect and encourage the return of this fine and most English bird, I heard a highly talented imitation of the boom; and I have little doubt that his analysis of the curious succession of sounds is the right one. It is exactly corroborated by the only man, so far as I know, who has watched the booming. The first queer, struggling noises are from the vigorous, almost painful, and gasping intakes of breath, preparatory to the triumphant boom or roar that has put the vocal fame of the bittern on as high a level as the lion's. The changes of altitude, as well as something bubbly in the sound, that precede the final trumpet voice have, perhaps, led to the belief that the note is made by the help of water. It is made, probably, with shut bill, and a swelling almost like a frog's is visible at the throat.

In this one part of the marsh three cock bittern are busy booming this spring from morn to eve. There are, presumably, three pairs thereabouts: and they will breed, as they have been breeding for the last twenty years. Elsewhere I have seen the bittern on her nest and handled the queer green-skinned youngster just hatched from an egg of very much the same colour. The bird was thought to be extinct as an English breeding species for some forty-odd years. Wise precautions lured it back and it bred again, in 1910 on one marsh, in 1914 on

another. Previously, most of those seen were shot. Proud possessors of stuffed specimens have shown me victims in both Huntingdonshire and Pembrokeshire. Those evil days are past. We can describe the bittern as a regular and almost common bird of one district, where it succeeds in rearing its three or four young without more risk than other birds. "The boom of the bittern is heard in the land," not rarely and spasmodically but regularly and frequently. Like most other birds he sings only in the breeding season, and, like some others, the notes shorten their sequence in a regular retrogression as the season proceeds. At the end you hear one boom to the series in the stead of four.

From the edge of these Broads and from the marshes rises many a heron, a bird not unlike the bittern in form and feeding habits; but how completely different in other ways. It nests in companies in trees; the bittern on the ground in great solitariness, though not, as the books say, in "impenetrable reeds." If there is a heron in the parish you will probably see it. You may spend a week within a chain or two of a bittern and altogether miss it. Like a corncrake (which, incidentally, is rarer than the bittern hereabouts), it refuses to be flushed. Not long ago a small Broad was entirely surrounded by sportsmen; and men with dogs and punts were busy in the middle. The shooting (of migrant duck) was fast and furious. The spaniels penetrated every bed of reed and sedge in retrieving the fallen birds. The firing lasted for an hour or more, and the activity of the punts and dogs for yet longer. At the very end, one of the men in the punts saw a bittern standing stock still within a few yards of his boat. It was only when he pointed the bird out to his companion that it at last consented to take to its wings and proclaim its presence.

The bittern has returned. It may be that the ruff, the reeve, also may return to breed, for they are often present. The conditions are suitable. We all owe gratitude to the owners of some of these most characteristic Broads and marshes that they have made protection absolute at great trouble and expense. With regard to the reeve, a positive experiment or two has been made to breed this charming bird from imported eggs. One endeavour—with a red-shank for foster-mother—was not successful; but so many vanishing birds have reappeared that we may hope to witness the return of almost all the birds that were known in the age of Hereward the Wake. The list of reappearances is already long.

3.

Summer-time, so-called, makes us all more weather-wise than we should be, for the great change in the day generally comes some two or three hours after the sun has risen; and when it suddenly rises at half-past five instead of half-past four, even the slug-a-beds have a chance of witnessing the change. In a spring, the ground for many mornings was as white almost as the cherry-trees and blackthorns and plum orchards and patches of wood anemone. The chickens pecked at frozen water-bowls and ran back disillusioned with the external world to their mother's warning call and warm feathers. The petals of the frost had quite fallen by 8.30 and haply by noon you might see the heat shimmering off lawn or common.

These continuing frosts, as well as their stiffer fore-runners, whose legacy is not yet fully announced, alter the face of the countryside and the ways of the animals in many ways that would baffle anticipation, though they

are plain enough to the observer. The ground-nesting birds have had an unhappy time, partly, of course, for the reason that frosts are severest at the ground level. On April 30 they had to sit through a temperature of at least ten degrees of frost, and melting icicles fell from the bents on their back. But cold is only one of their hardships. On May 1 a message reached me over the telephone that rooks had been seen flying from my direction with pheasants' eggs in their beaks. This was one observed theft out of many. It is a fact difficult to explain that the spring ground nests—pheasants', partridges', plovers', and, perhaps, ducks', have been ravaged as never before in memory, by many animals—squirrels, foxes, vermin, crows, jackdaws, but, above all, the rooks, which are not supposed to take a hand in this traffic, though they are in fact harpies if the weather is very dry or very cold or if their numbers are excessive.

One reason, though not, I think, the only reason, is the want of cover. One keen observer of birds in a very short motor drive found fourteen nests, all exposed to full view, in the hedgerow. And the ground is yet barer than the bushes, for few plants are more obedient to the prohibition of cold than grain and grass. The blackberries, which often keep the old leaves till the new expand, have long been as naked as an acacia bough. Even the hardier evergreens have not everywhere offered protection. Ivy-tods in the valleys—there are some extraordinary examples on trees overhanging the Lea—have lost nearly every outstanding shoot. The leaves have not yet fallen, but they are dead and brown, and those that remain green are sparse. I am inclined to think that this sudden browning is one reason why thrushes and blackbirds nesting behind the boughs have deserted their eggs.

Why some plants, as, indeed, some animals, are more resistant to frost than others, is a very difficult question to answer, and even yet we cannot be quite sure of our facts : which have resisted and which have not. Even wallflowers and late transplanted roses have recovered beyond all hope. The tender ceanothus has not so much as wilted, though the adjacent ivy—that robustious vulgarian—is cut to ribbons. Growing cheek by jowl, a fig tree is stone dead, and an outdoor vine lively with fresh shoots. The first pear blossoms to open are blackened to the core, and some of the closed buds are no better off, but the neighbouring plums, which are fuller in flower, show no damage at all. That humble medicinal shrub, grown by many cottagers near their doors, known as Lad's Love, Southernwood, or Good King Henry, seemed as dead as a door-nail a fortnight ago, but is now spangled all over with points of green. Of fuchsias and chrysanthemums left in beds we do not yet know the fate.

Some plants in England have acquired a permanent reputation for growing slowly, though in fact they have on occasion quite a nice turn of speed, solely because they are apt to lose the top tender shoots to the frost. The mulberry is one and the very popular and common euonymus is another, and “the burning bush” a third.

By the seaside the top shoots of the privet which grows wild in quantity are almost always killed by wintry winds (though these are nearly frost-proof inland) and the tender escallonia alongside it goes quite unscathed. In general the frost delays rather than kills. The perennial larkspurs, that we insist on calling delphiniums, are fine clumps and defy the frost better than ivy, better than nettles. Other herbaceous plants look well, but the note of the season is brevity. All stalks,

especially of tulips, are short. The flames of " flaming June " will set no chimneys on fire.

4.

Nightingales increase. I have heard them as far west as West Herefordshire and one is reported from the Devon border. Southwards there are always nightingales in sufficient number, wherever small spinneys or big hedgerows offer them the sort of hospitality they seek. It is towards the northern and western edges of their limited range that one can estimate the extent of the invasion. It is not unlikely (though I have no evidence on the detail) that they will even cross the Severn. One of their most distinctive boundaries is the Wye. Symonds Yat, or Gate, that famous " beauty spot "—if one must use the unlovely phrase—is one of the test districts. Only in good years do nightingales abide on the edge of the Forest of Dean there and shout from the Limestone Ridge. For the nightingale flies only as far as he must. He likes plenty of concert room. He is one of the territorials, who will not suffer trespassers within his demesne.

In the early days of his arrival you may follow the technique of his distribution, and you will never again hear songs quite like the earliest, though you may hear much better ones. The males arrive first, as with many other birds. It is not only the chaffinch, though he alone has been given the name officially, that lives in strictly celibate (coelebs) communities outside the breeding season. The way of the cock nightingales is charted with peculiar distinctness each May in my neighbourhood. For just a few nights the place echoed day and night with their songs. One of the listeners said that he could swear to the vocal presence of six cocks in one place, and would

not like to deny, with any dogmatism, that there were not thirty. Personally I went to listen to these first songs by a clump of furze and thorn which always proves irresistible to the first migrants. Not even the dumping of a Fair at the edge and the flashing headlights of cars passing on this side and that disillusioned the birds : they paid no heed at all to anything save themselves and one another.

Two cocks were outcrowing one another in as hot a contest as rival pipers in Scotland or Apollo and his human rival in the mythology. They perched near by one another and sang antiphonally, according to the rules. The clump is divided by a path, and when one flew across the path the other immediately followed. It never happened, so far as I could hear, that one bird did not respond to the other ; but the songs were rather of the trumpet nature than strictly lyrical. Not once did they utter that long-drawn, thin, plaintive appeal which marks off the nightingale from other birds, and has chiefly inspired the poets. His jug-jug is thrush-like ; indeed, the authorship is often confused, and the intermittent sequence of notes that follow has something in common with the black-cap's piece. It is the high-pitched single-noted cry that is altogether his own. My theory is that you seldom hear this part of the song when the cocks are competing before the hens have arrived, or at any rate before the pairs have selected their homes and driven away competitors to a respectable distance.

The love song and the challenge are distinct, and when we indulge in the controversy how far bird-song is a war song or a love lyric, we must recognise that though each species has a succession of notes distinguishing it from all others, yet each varies its song within the limits of its inherited gamut. Now and again one has the good luck to approach a cock bird singing almost in the ear of his

mate, sitting on the nest. Then and then only you understand how soft and sweet and varied is the song when meant solely to charm one pair of ears, and not to challenge any vagrant rival. It is inspired not by polemical zest but by sheer affection. It is whispered, but not sibilant; and though distinctive of the species has as little likeness to the louder and bolder song as the songs in the "Princess" to the blank verse, even though one of these songs happens to be also blank verse.

How the rival cocks decide which has won I do not know. They are not like the Harriers which fight to the death as Major Buxton saw on his estate in Norfolk. They do not, I think, compete except in song; but they drive one another north and west slowly and surely; and when May is a little older you will nowhere hear many nightingales singing very close together; at any rate, not in groups, as we hear them in most Mays, gruffly shouting at one another above the scent of the gorse. The nightingale, when nesting-time comes sings, perhaps, more decidedly for the pleasure of his mate than most other birds. We are told at one time that they had grown fewer because their song attracted the notice of that dangerous alien, the little owl: the victim advertised his eligibility. I do not believe the theory, but, supposing it were true, the nightingale would be peculiarly vulnerable, because the cock generally sings very near to the nest. Those dark eggs—night-like, as the song is of the night—are hard to find, but the searcher may always confine his search to a narrow circle round the singing cock.

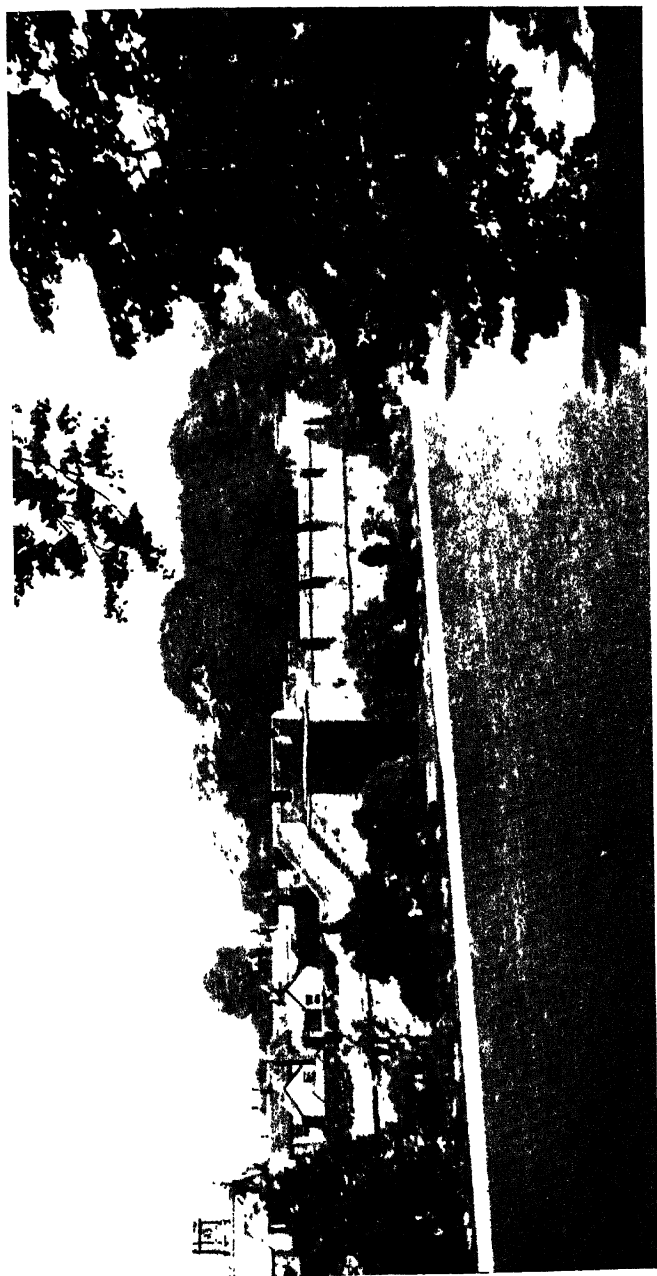
Perhaps the hen replies—ever so low—as certainly does the hen bullfinch. There is an Indian nightingale, the Shama (a favourite cage-bird), which has its Sapphos; and some maintain that the song of the hen, though not

so loud or quite so various as the cock's, is sweeter and lovelier. In listening the other evening to the nightingales we heard the flute of the blackbird coming clear and strong from a great distance, and then and there it seemed to me that his song was much the finer, more tuneful, more mellow, more musical in every way. But with the blackbird you hear all the song, even at a hundred yards, or two hundred yards. You do not know what the nightingale's song is like till you have stood beneath the bush where he chants to an unseen mate on the groundling nest. The "full-throated ease" is one thing. The song that can "charm magic casements" quite another.

Nightingales are numerous again; and as we study animals with greater attention we are coming to see that very many species (some birds, as most small mammals) are subject to some queer law of periodicity, more or less regular, though interrupted by extremes of weather, which itself is cyclical. The nightingales are rising, perhaps, to their summit. They certainly sank very low at one time, but are back again in all the old haunts that remain unsullied.

5.

As I turned into the once splendid avenue of the Broad Walk, sadly wrecked by autumnal gales, a wood-pigeon, both fat and contented, settled just overhead in an "immemorial elm" and began to lay a large stick on its so-called nest some three yards over my head. Quite certainly the nest will be finished, though it is over a public path, and two fat young pigeons will appear in due season to be fed into the large serenity of their parents. From neighbouring elms sounded the croon, which Wordsworth said—not perhaps quite truly—was



NEW COLLEGE GARDEN, OXFORD

the song of songs for him. If you read his interpretation into it, the song should deserve his preference ; and may be considered worthy of Oxford. It is certainly mingled with memories of Oxford in the minds of many Oxonians from Matthew Arnold downwards. Between Cherwell and Isis its song seems to draw out its links of soft contentment to a length rare in other places. And the bird is tamer. Indeed, all birds, as it seems to me, are tamer in river valleys than elsewhere.

What quality is there about May in Oxford which makes a species—no mere variety—of the scene and its sentiment ? The herbaceous border at Hampton Court—also an historic place and situate in the valley of the Thames—is finer than any in Oxford ; but, sentimentally, it has none of the appeal belonging to the flowers that grow beneath the old city wall in New College gardens, or of the humbler weeds that sidle up to the stone walls of Wadham. Perhaps the weeping willows near Clare Bridge in Cambridge are lovelier than the Babylonian weepers off the Botanic Gardens by Magdalen Bridge at Oxford ; but they give a wholly different aesthetic sensation. The difference perhaps is that there is something cloistral about out-of-door Oxford which affects even the plants and birds.

Here, for example, is the garden of a Master's lodgings. It is almost up against a noisy street. It consists chiefly of grass and some unremarkable flowers, though the white, pink and blue bluebells under the wall have a peculiar beauty. Yet to this little immured rhombus unremarkably situated in a city of 150,000 inhabitants, gather not only, or chiefly the common urban birds, sparrows, starlings, and the like, but birds rare and quaint and elsewhere furtive. Nuthatches run about the rough bark of the old pear tree, and repeat their little

bell-like laugh from the upper boughs. Here frequents a greater spotted woodpecker with his flaming red head and black and white stripes. You might live for years in the deep, deep country and never see the bird at all.

Round about Oxford neither man nor birds feel quite sure whether they are in a garden or the open country. The little islands on the Thames—as at Eynsham—are as cloistral as a college garden ; and conversely the walks of Magdalen partake as deeply of the fields as of the Academe. You do shake off this garden feeling (and do not want to) even as far afield as the Wytham Woods, where the herons build in company. Once long ago in those open woods, I found blackcaps also nesting in colonies. Most birds are jealous and define their territories very particularly, allowing no close neighbours ; but they often surrender this instinct in gardens, and the Wytham blackcaps, as if in a garden, had surrendered it more completely than any ungregarious garden birds of my acquaintance. And how they sang : clear and fluty as a blackbird, tremulous as a nightingale.

It was said by a great lover of Oxford scenery that the only way to enjoy it to-day, since recent architectural extensions, was to sit in your study and read Matthew Arnold. But in one direction at least the intimacy of touch between town and country has been increased, partly by help of the willow tree and its strange qualities. Along a number of new paths across the river every willow post driven in for the bare purpose of supporting barbed wire grew instantly into a tree ; and to-day the posts are favourite playing grounds, and, indeed, nesting sites, of wrens and tits, and even sedge-warblers, whose loudest chorus starts when the walks are empty and the sun has sunk. Such paths, thus wrenched by the natural influence of Oxford scenery from their formal origin,

lead the birds up to the river, and, conspiring with it, guide them into the garden of the Masters' Lodgings.

The valleys of the Isis and the Cher, and, indeed, of the Thames, are of no very salient beauty. The East may not compare with the West in river scenery, but its riversides and meadows possess their own virtues. This year most flowers are exuberant. If you should care in an idle hour to wander in the flat fields by the riverside, you may notice—what I only notice near Oxford—that the lazy cows have their bellies all yellowed with the abundant pollen of the buttercups. Perhaps Darwin would have argued that they share with the bees the task of cross-pollination! You may find within Oxford itself a meadow flower that elsewhere is purely of the fields, the fritillary or snake's head, both lilac and white. I have seen a yellow wagtail shake one of the bells as it rose, and the memory remains as of Oxford most Oxonian.

Even the parks which are marked out for cricket and football and other robust games have a half-cloistral air. How the black poplars tower, and how widely fling their arms and chatter with their aspen leaves! The warblers treat the formal rim and dotted clumps as hedgerows and spinneys. Even the tilted arch of the concrete bridge has something of the quaintness of the cripples on wooden crutches which serve to cross the brooks of the midland counties. The strongest ally of the Oxford Preservation Group is Oxford itself.

6.

The Londoners saw the gulls they miss from the Embankment or St. James's Park change colour before they left; white heads became brown, and this change in plumage indicated a change of heart. Spring had

possession of them and must find expression in colour, as if the birds had flower-heads like the tulips. And the likeness of flowers could be carried further. The young tulip-bulbs carry no flowers for a year or two ; and like them and unlike most other birds, the young gulls do not reach maturity for a year or two, nor put on all the flowering marks, so a fair number omit the spring migration. It is curious that our London gulls nearly all belong to that lightest, daintiest species, the so-called black-headed, though herring-gull, and last winter black-backed, which suffer less obvious spring changes, join the urban company.

The herring-gull nest in little colonies on the cliffs, as at Baggy Point in North Devon. The kittiwake (which is most like the black-headed in size and guise) nest in hundreds at the north end of Lundy Island ; only the black-headed are inland. It is a liberal education to watch the nurseries of these tern-like gulls. You must go, not to the sea, but to the deep, deep country. One of the most characteristic ; and surely one of the loveliest of these nurseries is in Hereford. The approaches have every sort of rich scenery that the eye could desire ; and yet, so strange is the way of our civilisation, man has been steadily abandoning this paradise for two hundred years and more. Fewer and fewer people dwell thereabouts. You can scarcely believe that such hills, such rivers, such fields, such a spacious landscape, can be so empty of human habitation. The population of birds far exceeds the company of man. Here is a stretch of England, happily uninvaded by the pink-tiled villa and innocent of "ribbon development." Though in most points dissimilar, it reminds you of Stonehenge, and on the way we pass a Druid's oak with a bunch of mistletoe in its embrace.



A. J. Rooker Roberts

KITTIWAKE ON LUNDY ISLAND

The gullery is centred in an upland marsh which is the watershed of two rivers that flow out from either end. The waterlogged stretch rises here and there into dry grass ridges and heathery platforms, but if you want to be among the gulls and other nesters—one or two the very rarest—you must wade among the rush, and sedge, and cotton grass, half-awash themselves, and concealing brown shallow pools of open water. You could sniff the marsh gas as you trod and sank, but happily not far, for the underfloor is of stubborn clay and the ooze shallow. Before you enter the voices of birds proclaim what is to be found there. The gulls, rising and dipping almost like swallows, utter their wild cries that strangely resemble, if they are numerous, the baying of a bitch-pack of foxhounds. The curlews called like disembodied spirits with the wail of a winter wind. You may hear a buzzard mew overhead, and perhaps the raven croak, and the peregrine chatter, for both nest on the surrounding hills. The snipe dived marshward that the wind might “drum” in the harp of those vibrant feathers.

The variety of life on the marsh is always great, but the total population varies greatly. One year the nests were legion. On the latest visit we found a sprinkling of nests with a tawny egg or two, but at first in the drought they built too low, and when at last the rain came the nests were flooded, and the gull does not possess the moorhen's art of raising the platform at a moment's notice. Apart from this disaster the gullery was not a twentieth of its normal size, and the reason—in the belief of the rare countrymen thereabouts—is that the frosts, especially severe in that region, took heavy toll of life. For many birds this year's nesting has been spoilt by uncommon dangers. The curlew is peculiarly

clever—though it is excelled by the snipe—in concealing the nest, and we watched pairs for hours circling round and pitching again and again close to the presumed nest. We found none ; but found bits of egg-shell, left doubtless by marauding crows. It is an almost universal experience of a dry season that crows, jackdaws, and rooks demand a diet of eggs ; though I had not thought before that the curlew, of all birds, was likely to be one of the victims.

To find ground nests you must abide still and watch the nesting pair with infinite patience or trust to blundering accident, and this is often the more fruitful course. How close the wild duck sat in this marsh, and how smoothly slipped away, low and furtively. She is a good concealer of her nest and loses few eggs to the crows (though her own life is in danger from the peregrines), and her worst dangers are faced when the young are born. Then she best shows how great are her maternal arts. They are also mysterious. She attaches the babes to herself, as if there were some magnetic attraction. They coalesce into a contingent group, like bubbles ; and a whole family will swim down a rapid current, as if they were one raft, mechanically bound together. How it is done, I have no idea, though most of us have watched the accomplishment more than once.

I have never left this wonderful marsh, lonely and remote, but yet open to marauders, without a strong wish that it might be made a national sanctuary. Thereabouts nest and live birds so rare as to be almost extinct. The ground is valueless for cultivation. It is “an acre rich indeed.” Perhaps in the whole of our island it has no close parallel, and the West is much poorer in sanctuaries than the East of England.

JUNE

*Blight and Bloom—A Botanical Links—New-mown Hay—
The Perfect Sanctuary—Two Western Woods—The Eagle's
View—A Furtive Mother—The Quietest Broad—A Southern
Yarrow*

I.

THE weather—over the loveliest line of country, as it seems to me, in England—was described by the Worcestershire fruit-growers as “blight.” From a dark canopy fell an occasional drop as big almost as a snowflake ; but we all could see that the curtain, whatever its texture, was not a cloud, and all confidently predicted that it would not rain. Some sombre mist hung overhead, moving slowly on a slow east wind, and was not heavy enough to drop its burden. The fruit-farmers, who contribute much to the glory of the scenery, do more than describe this type of weather, which makes a regular appearance in spring and early summer, as blight. They hold that it is not only itself a blight, but brings blight with it, that as surely as the sky darkens under this coppery drift of some substance that is neither cloud nor smoke, so surely will the green or white or purplish fly begin to appear in quantity to suck the juices of their fruit-tree leaves : the blight on the sky and the leaf, however little they deserve an identical name, are somehow or other causally connected. The farmer has no doubts, but the man of science is not sure.

This “particular”—in the Weller sense—overhung the valley of the Teme, near Tenbury, in one of the most

prolific years in the annals of the district. Let me dwell a moment on the qualities of the place itself apart from this besetting sin. It is wonderfully typical of the West ; and to my eyes not the Wye itself or " Sabrina fair," or any of the Welsh brooks has carved so scenic a valley. It is not wild, but abundantly tame. Successive orchards of cherry, of plum, of apple, especially apple, and of currants and gooseberry, lie under a fringe of wood rimming the steep northern slope. The valley takes in sunlight and hoards it. Alongside the bright river, where the so-called brown trout show their rainbow spots, the meadows, flat as a lawn, alternate between hop fields and pastures where the Herefords fatten. The valley is wide enough to give spacious views broken into classes of distance by hills and hillocks of many patterns. Here use and beauty are married indissolubly ; and every tree that man has planted, every furrow he has drawn, has superadded richness to a scene always gracious. Not in Homer's elysium are orchards more pink and white, meadows more green or hill and valley more delicately intertwined : the Teme is a very Tempe.

Elysium, however, might well be freer from blight, whatever the word is meant to mean. From Birmingham, it is alleged the east wind carries this darksome pall, and within it now and again finding some more than usually congenial smut, a raindrop will coalesce and fall. Yet Birmingham, whatever the sins of the town in the eyes of the country, hardly, we may presume, sends out a host of greenfly to beset the leaves of the orchard trees and bushes. Undeterred by such logic the country people speak almost as if the light of the upper air were compacted of greenfly which fell in an evil shower. But where does the truth lie ? an S.O.S. is sent out to Science ; for the plague of aphid or greenfly is as certain

to appear on the heels of this weather as a thunderstorm after the emergence of the little black "thunder flies," which also suggests a mystery of association. I have seen the black fly arrive at a farm of small fruit, like locusts. The much sprayed bushes were perfectly clean early in the morning. Before noon all the east side gooseberry bushes were black with flies which spread steadily westwards and a battle royal was waged by the farmer and his sprayers.

Since Darwin proved to us that the crops of clover seed varied in excellence directly with the number of old maids in the vicinity, we can never be greatly astonished at any correlations! Perhaps that ingenious group, who call themselves phenologists, and note the exact date of various natural appearances, would absorb "blight" into their list of notabilities. This spring in the lovely western counties is a season of almost "wasteful and ridiculous excess" not in one direction but in most. Seldom did one see such flower on the apple, such fruit on the gooseberry, such caterpillar on the roses, such blight in sky and bush, or hear such songs from so many birds. They are all perhaps interrelated. The vigour of the birds' songs quite certainly depends on two plenties: abundant moisture in the air and abundant insects on the leaf and ground. The cuckoo contrives to "beget the golden time again" till we long for silver. Nightingales are as noisy by day as night; and one willow warbler in a western garden sang his plaintive piece out of a merry heart for at least fourteen hours a day without notable intermission. Though the birds were many and cheerful and hungry, the gardener must needs be up early to help them in their beneficent work of caterpillar destruction.

The same gardener found many queen wasps abroad.

To kill or not to kill? The question worried him. The morning was sweet though a little blighted. The queens had come out of long and stuffy slumber, and were enjoying life for a few moments before beginning one of the most triumphant works of labour known to the animal kingdom. The gardener saw ladybirds too, and welcomed them; and knowing that both insects are stalwart enemies of blight, I hope that the wasps also went free, in the cause of the balance of nature, if we must find some philosophic reason for an act of mercy. The wasp is a godsend for the grower of small fruit, if he has less apparent value for the grower of plum and apple.

This valley is loveliest perhaps in apple-time, though the apple is not its master fruit, for the apple is doubtless the loveliest of all wild flowers. Nothing in the hedge-row rivals the crab; and it is argued by some botanists that most of the crabs are not, as we should expect, the origin of our orchard apples, but that the orchard apples have produced the crab; that these gems of the hedge-row have sprung from rejected pips thrown there by the bird or the apple-eating boy. Of the cultivated crabs, one of the most popular for adornment is the Siberian, in regard to blossom a curious choice, for it is almost innocent of the seductive streaks of red that give the wild crab, and most, but not by any means all, the orchard apples, this peculiar charm. However, it makes up the arrears of colour when the long narrow fruit comes, all red and yellow as a Cape gooseberry or Chinese lantern. Affectionately wandering about the orchard at blossom-time, you become familiar with the distinctions in flowers. The later varieties of codlin are redder than the early. How thin is the base of the petal, how well-rounded the rest in that most clean and useful apple. Lane's Prince Albert, and in Bramley's seedling.

Coronation has narrow and very disparate petals. The red at the outside of Cox's flowers runs in definite streaks like the colour of a tulip that has reached the stage of "broken" life, as the florists say. In others, such as Mr. Wilkes, the whole petal is suffused with pink; and in some the tawinness of the fruit is tinted in a sort of cinnabar streak in the blossom. Many apples are rather sparing of foliage, as often the Blenheim. You may get little more shade from it than from a blue gum in the Australian bush. Conversely, how deep green and robust in body are the leaves of Norfolk greening and Lord Derby.

The crab is a bush rather than a tree; and some philologists claim that the word means bush. Nevertheless, the habit of growing apples in bushes and pyramids—forms especially congenial to Cox, that apple of apples—has limited the number of orchards proper and reduced their charm. If it is a crime "to plant oaks in flower-pots," it is as immoral to refuse the Blenheim its great gift of size, its thick angular boughs of priceless wood and seductive crooks, where both missel-thrush and chaffinch and, if a hollow should be punctured, the tits especially delight to build and sing. Perhaps the best trees, as trees, at least on the average, are seen among cider orchards; and the favourite varieties burst into bloom, often rather late in the year, with a sudden completeness like no other apple. Some of these trees are only less noble than the pears. Assuredly, if we must have rough and wholesale classifications for popular use we should divide both pears and apples into cookers, eaters, and drinkers. It is a little odd that the genus should be *pyrus* not *malus*, pear not apple. (It is odder that this not very extensive genus, in Britain at any rate, should include, of all unlikely trees, the rowan or moun-

tain ash.) An apple is too noble to be a sort of pear ; but one must confess that in respect of growth as a tree the pear may justly claim the more Norman descent. Even a well-grown king pippin that has quite avoided canker, is inferior. Our ancestors were also fond of declaring that the pear produced the more potent and therefore in rustic judgment the superior drink.

2.

Most of us will agree that one glory of the game of golf (as contrasted, say, with billiards) is that it is played in lovely places. I know one links—in Devon—where their adventitious glories distract the very elect. The first time I played there my kindly guide said : “ You will find plenty of bee-orchis by the twelfth tee.” That was the first hint of the peculiar, but not golfing, virtues of the links. They were, and are, a botanist’s paradise, and it is on record that a specialist in moths wholly deserted his golfing opponent and was last seen careering about the flowery interspaces of the gorse. Nor would a student of birds have missed a similar temptation. The cock stonechats patrolled the sides of the course and chatted conspicuously from topmost sprays of the lowly whins. The errant ball disturbed the meadow pipit from her nest, and rock pipits appeared over the seaside edge. Not once or twice pairs of buzzards, immense and splendid, circled overhead, sometimes mewing as if they were winged cats. So it came to pass that golf on these links was not golf as generally understood, but a different and doubtless a better game.

Those who try to play the other game are not a little hampered and prevented by the flowers. The carpet of daisies has so continuous a nap that the whole surface

changes abruptly as soon as the sun comes out. The grass that was yellow with dwarf buttercup at once becomes white and pink with daisies, flowers very sensitive to the allurements of the sun. The golfer's ball thereupon undergoes a process of protective coloration. It is curious how the mowing-machine spreads the daisy. Its natural abundance becomes super-abundance when the heads are artificially sprinkled by the revolving knives. You may see a persuasive example of this successful but regrettable sowing at Portrush in Donegal as at Woolacombe in Devon. The daisies often enjoy the companionship of an untimely abettor. Puff-balls arise in multitudes, and they are as round and white as any golf ball fresh from its paper wrapper. Among them are a few "real mushrooms," a description restricted in popular speech to *Agaricus campestris*. It was an oddity of the year of my introduction to the links that mushrooms of many sorts were numerous and precocious. Some months earlier I had found an outcrop of the quaint and pleasantly scented morels, with their heads of panel-like cells, in places where none had ever, so far as I know, been seen before. This delicate and delicious mushroom is always one of the earlier species.

There is one flower, blooming profusely on the North Devon links, which may well distract even the engrooved golfer. It is the dwarfed and "most spinous" wild briar, the Burnet rose. No rose in the list is sweeter. Its scent rivals even the crimson glories of the garden, such as Etoile de Hollande or one of the Dixons or that now rare and luxuriant briar, *Moschata floribunda*, which this dwarf rose very closely resembles in all but habit of growth. Seldom in this place does it flower more than a few inches from the ground, and one of its charms is that you often find it entangled among other lowly

flowers, set, for example, in a cushion of speedwell or hidden by primroses, which, against all the rules, are still in full flower, or backed by a purple orchis or competing with buttercups and daisies. The true species wild native roses are very few: dog-rose, field-rose, sweet-briar, and this spiny dwarf are the chief; and it is surprising that more has not been made of the smallest and sweetest by gardeners, scientific or other. It is as well worth a place among the rocks of any garden, if only for its supreme scent, as any expensive immigrant from the Alps.

Among associations of flowers I have always reckoned the loveliest, in recollections of wild places, to be the patches of dark blue *Lithospermum prostratum* tangled up with cistus, which are a more or less common sight in the Western Pyrenees; and not seldom clumps of the tufted vetch are added. North Devon can run this association close in appearance and far exceed it in savour. The yellow and gold are supplied both by the tufted vetch and by solid rings and cushions of what some residents call "pettytoes," or birds'-foot trefoil. The little real English rose is lovelier than the cistus or rock roses of Southern Europe; and in general the bright weeds of Devon—speedwell, milkwort, campion, bluebell, herb Robert, yellow iris, bluebell and primrose (which are still in flower in June) grow in closer conjunction.

The so-called links of which I write are not so famous for flowers as the famous Saunton links in the neighbourhood, where parties of botanists resort for their own proper recreation. I have found there within the day both rare flowers and that very rare bird, the merlin; a pair nested on just such a hummock of sand and Marram grass as golfers would select for an ideal bunker. In the

middle of this you come upon broad spaces that look as if they were covered with green grass ; but you find on closer inspection that the whole tissue of the surface is a dwarf cranesbill. An experiment has been made in covering and holding the sand with that queer but splendid plant the mesembry-anthemum or fig marigold ; and it takes kindly to sandy links, as does that fine and useful garden bush, the *Buddleia veitchiana* ; but the frost of two years ago was not kind to it. Many links have their special flowers : Rye, for example, its viper's bugloss, to which in Devon is added its cousin, the hound's-tongue, but it is only in Devon that their number is really distracting.

3.

The flowery links of Devon are very lovely : so are the hayfields of Hertfordshire to which I return. The sloping meadow, in front of the elms, has suffered its last change of the year. It has always pleased the eye, framed there by the pillared trees, catching, throwing back the light, empty or frequented by sheep, snow-white, and merry with tobogganing children, at one time very green and short in nap, at another silvery and deep as the reed beds of the river. It was "laid down to hay" late in the year, but already its little harvest is cut and carried. The smell of the new-mown hay has drifted through the gap in the trees, and—till sunset, but not after—out-scented even the sweet-briar hedge.

The date was early, in concordance with the very newest theory of what hay should be, and the theory, if carried through, will deduct some quality from the glory of the grasses. Leaves or blades are discovered to be more nutritious than stems and flowers. The stock, so

to say, do better on cabbage than cauliflower ; so hay is to be cut earlier and grasses are to be sown of varieties that produce less seed and more blade. The most salient and splendid grass of our district was named by our rural ancestors (who, poet-like, saw likenesses and despised differences) the cocksfoot. It bears the branched head as proudly as a red deer its antlers ; and that is another likeness it suggests. It is very good to eat, as even country boys, smoking it like a pipe, discover ; but in New Zealand they have a sort that bears fewer cocksfeet or antlers and more blades, and this we are now advised to sow.

How different are the sown fields of grass from the meadows that Topsy-like have just "grewed." A neighbouring field is half cocksfoot, which is of the grass grassy, half rye-grass, which is almost a grain, the one waving and wild, the other neat and tidy. The cocksfoot half is full of shade and colour, the rye half level and satiny, seeming to reflect all the light that strikes it. Both are not only less venous but less full of other life than the permanent meadows. The little moths are fewer. There is no froth-fly producing the frogspit that can on occasion (as Tickner Edwards has delightfully described) colour a field almost as gossamer. It is a wonder, with his knowledge of the insect, that he did not quote his Tennyson about "the froth-fly on the fescue." The fly does seem to prefer fescues, though it will set its snare on any grass and—in my experience—has a surprising affection for those very different plants, lavender and dock. The "leys" have one sort of beauty as the leas have another ; but it is more suggestive of harvest than of haysel.

The sloping field, where within a day or two sheep or cattle will again be grazing, is separated by a lane from

a low-lying meadow which is always mown by the scythe. No machine ever enters, for the very good reason that there is no gate. The mower will enjoy his strokes not less than the golfer. He has peculiar skill. He lays his scythe delicately down, and draws his arc as if he were not cutting hay but stroking fur. He asserts that it is all a question of whetting the scythe well and often, that anyone can shave close with a sharp razor, and no one with a blunt. Doubtless he is unaware of his own technique ; but he pivots from the left hip and strokes the club through with the right arm, just as Master Bobby Jones advises the golfer. But, unlike the golfer and like Meredith's lark, he may claim to be

divinely free
From taint or personality.

He mows as naturally almost as he walks or the bird flies. Imagine his feelings if he heard himself compared with a lark or even a champion of the links !

The rhythm of the mower is an artist's delight ; but though the contrast is pleasing, if the scythe has a romance enriched by thousands of years of history, the mowing-machine has not robbed haymaking of its old attraction. The swish of the scythe (like the sound of a receding wave that

Sucks back the secrets it had meant to tell
But found no way)

and the swing of the mowers' rhythm, pictorial of happy human labour, are irreplaceable ; but if there is no symbol or sentiment in the mechanical mower, it is picturesque, nevertheless, and accompanied by a certain drama. No ship leaves a more curious wake. The blade travels so fast that the field is agog with live things

adapting themselves to a new life. The machine is followed by birds, as a ship or seaside plough by gulls. Wagtails and flycatchers, and sparrows and starlings trying to mimic them, dance up and down in pursuit of the host of dishoused moths and gnats and midges. Martins and swallows, and even an occasional sandmartin, desert the neighbouring streams and weave their mazy patterns of flight over the field, sometimes so close that they almost dip their breasts in the surface, as if it were water. The swathes lie even and quite unentangled, inspiring children to come and pick bouquets of what flowers may lie among the grasses, moon daisies and buttercups, with flowery fescues and poas, and the silvery foxtails.

So far as they are charactered in the field all the seasons might have passed before our eyes within the last three months. The field was green, then at middays white with daisies, then golden with buttercups, then pink and broad and red with plantain and grass and dock, now quite green again. The thunderstorm that accompanied the cutting set new growth instantly afoot; and we are back again in April. There never was a bare-looking moment. The green has returned more quickly than clover hides the stubble, and we can quote our *redeunt jam gramina campis* as aptly at midsummer as in spring.

4.

We have many sanctuaries in England—indeed, England itself is a sanctuary and every garden a privileged sanctuary—but, if one may make a sweet-smelling comparison, few are so sacrosanct as the Norfolk mere I would attempt to describe. A channel, that looks almost as petty as a ditch—so hidden is the water by reeds,

rushes, and sedge—leads from the main river; and across it is an iron chain, which the high priest of the sanctuary unlocked on our behalf, and thereafter joined our company. As we punted and paddled alternately through the corridor leading to the holy of holies, we already saw unexpected things. Between one bank and the reeds was a well-trodden otter run. One little clump of reed, not above a foot in diameter, had the neatest moorhen's nest I ever saw—it might almost have been a huge reed-warbler's—and close by was one of the "night nurseries," a second but empty nest more solid than the other and built for brooding the young at night, as is the moor-hen's way.

Presently the boat rode free in a mere that might have been a thousand miles from anywhere. You saw no way in or out. Trees and bushes, especially alders, and great widths of tall reed completely enclosed the silence. Seductive bays and promontories and a sprinkling of islands veiled the contour of this reedy archipelago. For a while it seemed empty even of birds; but presently a louder word or splash from the oar stirred a flight of duck; and a dozen or so mallard, shoveller, and teal rose together from the reeds. They disturbed a rarer and more curious bird. With a clatter and at a low angle rose a greater-crested grebe, looking oddly skewbald in its more than Elizabethan dress. And now our quiet retreat seemed to become suddenly populous and busy. A number of young duck appeared and disappeared in the darkneses and twilights under the alders and at the edges of the reeds. It is seldom that the duck nest so late as they did in that season, and though many young were swimming about, we found many nests still full of eggs. In one the first egg was just chipping.

Events multiplied. The bird we saw most of was the shoveller. One we disturbed probably among her young, for she fluttered out into the open water just in front of us and began to sham with all the skill of a mother partridge. She made silly little arcs and strokes in the water in a sideways, crab-like fashion, and did not recover her natural guise till we had safely left the neighbourhood of the ambush, where doubtless the young were sitting still and safe. She was kept for some while in suspense, for thereabouts was a crested grebe's nest that we sought and found by often separating the reeds with the oar. Like the other grebe, she had covered up her eggs—three of them lying in a nest little better than a moor-hen's. They felt so hot and steamy under the bits of wet reed that one was half inclined to credit the superstition, still, I fancy, prevalent, that she hatches her eggs by the agency of a lily-leaf, spread over them and imparting its own spontaneous heat!

The sanctuary is chiefly a reserve for duck; but many other birds enjoy it. "Now listen to the reed-warbler singing," said our guide, one of those native naturalists whose knowledge is all real; and as he spoke he smacked some low reeds with the flat of the oar. Immediately a warbler started his little bout of song; and the old device which we tried several times never failed. Not even the superior instruments, dear to American naturalists for imitating calls, are so certainly effective as this simple incitement. We were unlucky not to see a bittern; this queer bird, once very common throughout the fen country and in wilder marshes, both in East Anglia and Little England beyond Wales, has now quite definitely re-established itself. It nests in the neighbourhood, as told elsewhere, as regularly as the little bittern, which I used to watch in the watery land round St.-Omer



BEESTON PRIORY, SHERINGHAM, NORFOLK

J. Dixon-Scott

in France. Three young were hatched in one nest thereabouts three weeks or so ago, and other nests elsewhere were known to exist. The Ancient Mariner did not better deserve his curse than the man who shoots another bittern or robs its nest. Indeed, the albatross is less rare and strange.

We saw several herons, and on the way out came upon one of their favourite fishing grounds. Three or four clumps of rush were trodden down as if some animal as heavy as a hippopotamus had got out there. But the work was the work of a heron, and by way of proof at the foot of one rush clump lay a large dead bream. Doubtless the bird had found it too big to swallow. On this subject, Mr. A. H. Patterson, in his latest and most delightful of books, records how he saw a heron fail to swallow a big fish and with final petulance dig five large round holes in the body before flying away. A bird we did not see was the water-rail; and there is some fear that this race was entirely exterminated in the late frosts. As the chain door was locked again behind us, and we looked back towards the invisible shrine of the sanctuary, we united in gratitude to the men, Buxtons, Grenfells, Gurneys, Cators and the rest who at their own proper impulse and cost keep such places unspotted from the world.

5.

There is a wooded knoll in the West Country which is like none other, at least to my experience, either in its form or its contents, though I like to compare it with another wood yet further west, and hardly less original. The great trees, which are of many sorts, both rare and common, are a late addition: for the hill was once the site of an immense Roman encampment. The tons of

earth which must have been moved to make the fosse and vallum are of a weight to dwarf the pyramids. They have withstood "time's leaguer," the assault of the centuries, with steadfastness, except in one reach. There yews were planted at some unknown date, and are now old and big and dark. Round about them, perhaps because of the deep low shade, those furtive animals of the night, the badgers, have driven immense earths year after year for generations, as you may tell by the deep dip in the Roman fortifications.

The wood is the only one I ever knew where the badger is the commonest animal and gives everywhere unmistakable signs of his numbers and activities. Pathways have been trodden out, as they are trodden elsewhere by rats or rabbits or sheep. Growing from the ditch below the yews is a tree with a much-divided trunk, springing from a boss not a yard high. This the badgers use for a playing ground, very much as bears will treat a log in a zoo. He jumps in and out between the trunks. The sides of the tree glisten with the rubbing, and the paths this way and that are trodden hard as a town school's playing yard. You cannot see the signs and not imagine the rough, nightly gambollings of this strange creature so often discussed, so seldom seen.

Few animals, if any, are more faithful to their home. Generation after generation the same earth may be used; and each badger is imbued with an obstinate affection that can scarcely be resisted. Once, many years ago, I saw a badger dug out of his earth, put into a sack, and carried off to a considerable distance before being released. Several of the company stayed by the hole to prevent the animal re-entering. Their joint efforts were wholly vain. Back he came, with lowered head, straight home, brushed past obstructing legs and shouts and

blows and disappeared into the outraged earth. Badgers were still living in the same home years later. Fox-hunters and game-preservers do not appreciate the badger, and poultry-keepers tell fantastic stories of its inordinate strength in bursting the toughest wire and breaking the stoutest board. He may be omnivorous and indulge in improper bouts. He is certainly not a regular enemy of birds or of any other of the larger animals. The neighbourhood of this badger metropolis, I was told, is scarcely aware that the animals exist. They live and let live. You love the wood for its record of history, for the rare and stately hills, for the old and lovely church below it, and the distant glimpses of white waters and green valley of the Wye; but the badgers leave the master impression, and to them in their dark fortress the hill belongs by length of occupation and a sum of work that rivals the Roman engineers themselves.

What the badgers are to this Herefordshire wood, ravens and buzzards are to a certain North Devon grove; and those ravens and buzzards, which some neighbours would shoot, but others more wise and potent protect, do as little harm in this neighbourhood as the badgers in the other. The wood dominates a very narrow valley. Oaks twisted into every fantastic shape by the salt west winds make a Doré frieze against the skyline and protect the great Scotch firs (planted by Jacobites for the satisfaction of their loyalty), and other oaks and beeches.

In these are a number of nests, used and unused, of buzzard and raven. I saw a pair of birds of each species. The buzzards half-hovered overhead, and one old raven occupied his favourite point of observation on the perch of the highest fir. The valley below swarmed with poultry, with turkeys, chicks and hens. But never yet has either hawk or raven been so much as suspected of

attacking any chick on the farm. A certain dignity belongs to these big birds that the smaller sort miss. They do not harry their immediate neighbour, but keep their hunting grounds elsewhere. When feeding their young you see them coming from the distance and disappear into it again. Doubtless, some of these flights are almost as long as the peregrine's.

The two woods belonged to the badgers and buzzards and ravens; but some qualification must be allowed. In the Herefordshire camp one old rough-barked tree looked as if it had been used as a target for a shot gun, so punctured was it with little round holes on every side. In the Devon wood the woodpeckers found it easier and richer feeding where the lichens grew as long as goat's beards on many a mouldering bough. From early till late, from one end of the valley to the other, you heard their loud, almost ribald, laughter, and from time to time caught a flash of red and green between the trunks. Both woods, like most woods, were heavy with silence, broken by the occasional clatter of a pigeon's wings in the tree tops or a distant croon. Only the woodpecker had no respect at all for the sylvan sanctuary, else "articulate with silence." His harsh and hearty hilarity is much the most startling of sounds in these woodland places. Such a jester is not expected in a cathedral.

6.

"My first salmon," about which most fishermen have written, is hardly less exciting than the first sight of a golden eagle. I saw my first in the Isle of Jura, in a scene of glorious extent. The little burn cuts a narrow valley down to the loch. When you have climbed to its source, among the heathery hills, you reach a dry scoop in the

land littered with the debris of centuries, a cascade of bare and shapeless stones fallen from the granite peaks that build the centre of the island. On one of the steepest, though not the highest cliffs into which the slope breaks, a pair of golden eagles have built a new nest and are brooding their young. The site is not known to above half a dozen people, and not so many as that have seen it. Happy seclusion! for the golden eagle, the biggest of our land-nesting birds, is like the red deer, the largest of our wild mammals, in this: He exults in loneliness, and in spite of his kingship may be called shy. He is soon driven from a favourite haunt by curiosity, even of the mere observer (if he repeats his visits), of the photographer, and much more of the man with a gun or an egg-box.

The golden eagle's nest in some ways is as difficult to find, even on a second visit, as the golden-crested wren's under a branch. The rocks overhang it from above, they are sheer below it, and the cliff is split up into angular corridors, not perceptible from above, and each so deeply cut that a general view from the side reveals nothing. We peered in vain over this edge, and at last tried the effect of noise, hoping to disclose the bird if not the nest itself. A stone rattled vainly to the bottom. Our voices died on the air. At last, as we had nearly drawn this particular cliff blank, we crawled among the heather to a little promontory rather lower down, and as we came to the tip of it, the great bird dived out so near to us that even our guide did not restrain an exclamation—in Gaelic gutturals. You could almost hear and feel the rush of wings; and they took the bird with scarcely credible speed, not away as with ordinary birds, but up and up over the nest, more like a rocket than a spiral plane, till we lost sight of the dot she became in the indistinction of the sky. We did not see her again, though

our guide was sure that she was theoretically in sight, looking down from her astral altitude at the puny interrupters of her peace.

The young grunted feebly in the nest behind the heathery walls. How immense the structure: it would have offered full-length repose to a man who sought "bed in the bush with the stars to see," that is if he had wings to reach it. The birds seemed to have delighted to carry for its foundation the biggest stems, almost trunks, that they could find in that treeless region, and these jutted out in glorious disorder from the lower part of the nest, that grew neater and neater as it rose, becoming at last a decorative couch of bracken and heather. It was placed as if the birds felt that man was their only enemy, as perhaps we must regretfully acknowledge! A rope from above would have swung outside the nest, and any climber from below—*experto crede*—was faced by much the same distance of sheer or impending rock that guarded the upper approaches. The defence was perfect; and since this reigning bird has no enemies in her own genus, her instinct of preservation must be solely against man. It is at least curious that the great birds of prey all choose the least approachable sites. I think especially of particular nests of peregrines, near St. David's Head (where once they were caught for hawking), of buzzards on Dartmouth rocks, of ravens on the cliffs near Aberystwyth, all beyond reach except with the aid of ropes. One of the few other nests we found on this journey to the eagle's was a carrion crow's, fastened almost as unapproachably and much less visibly on the highest bit of cliff cut out by the burn.

Or was the eagle, whose master sense, as in all birds, is sight, drawn to the place by the wide splendour of the view? It is, perhaps, the most glorious in the island.

As we lay among the heather—so near, but so far from the nest—we counted twenty-one lochs below us ; and if “ water is the eye of scenery,” this had the attribute of Argus. Every dip in the hills revealed its lake ; and beyond them gleamed at one angle the great loch with its pattern of bays and promontories and rocky islands, at another the very Atlantic. The eagle as she soared could see as in a map the ocean beyond the near archipelago, perhaps beyond Ireland the line of the Outer Hebrides, eastwards deep into the highlands. The young birds, long before they flew, would be at home in the heights and in touch with space. Their first flight would be a dive from a pinnacle into the invisible buoyancy of the air.

Our guide was one of the small company who have seen the golden eagle teaching the young to fly. He could support the belief that the parent birds, after urging, and sometimes shoving the youngster into the air, will swoop underneath and rest the struggler for a moment on their wings and back. The spectacle has touched the imagination of the countryman for thousands of years, in times and countries when and where eagles have been allowed to be many. The *locus classicus* is in Deuteronomy, chap. 32, “ as an eagle stirreth up her nest, fluttereth over her young, spreadeth abroad her wings, taketh them, beareth them on her wings, so—.” Our guide, when questioned, said that every phrase of the verse (which was new to him) was accurate, save the first : he had seen it all except the stirring up of the nest. This, too, has been described by an American observer, but perhaps lacks corroboration by a less stylistic witness. Many young birds, whose nests are high, tumble to the ground in a harmless slope, but the young crows, rooks, hawks, and indeed the little blue

tits, fly readily enough unaided. Is the eagle alone in lending such active help at the first flight of her young ?

7.

A doe rabbit has selected a garden bed, within a few yards of the house, for her nursery and the accidental discovery has made observation easy, and perhaps fruitful. Like all her class she fled from the burrows and the company of her kind near the warrens when pregnancy was well advanced, to seek a secret retreat at a safe distance ; for she regards other rabbits as no less a danger than stoats or weasels. The hole in the garden bed was discovered by a mere accident. It must not be for a moment supposed that this careful doe left any trace of her excavations. It is in itself a wonderful thing, an act of both mechanical and instinctive skill, that the earth scratched out is so scattered that it totally disappears. Where ? The hole is the better part of a yard deep and roomy withal. In digging burrows for common use no such precautions are taken ; indeed, the excavated heaps are more often an advertisement of the warren.

After its discovery, in the very early days of the family, this garden nursery was very carefully watched during a good part of the day. Never once did the doe approach it in the full daytime. As soon as the sun climbed high and the world grew busy she sealed the hole up and herself vanished. Her methods were like those of the farmer in compiling a fresh potato clamp. First she stretched a thin partition of straw, hay, or bents, or flimsy stems across the mouth of the hole, and then covered this with earth. So carefully again was that done, that the gardener might have put his fork in before he noticed that the earth had been previously disturbed. When the sun was



A. J. Rooker Roberts

GOLDEN EAGLE AT NEST

low and busybodies absent, the mother came back, by careful and furtive approaches, undid the covering and suckled her babies in the night season, repeating this succession every day and night.

The whole of every day the young rabbits lay in the dark unfed and sealed against the world. They lie soft. The rabbits' nursery is suggestive of a wild duck's or an eider-duck's nest; the one is as soft with the doe's breast wool as the other with the duck's breast feathers. There is this difference between the bird and the mammal, that though both are kept warm o' nights by the maternal presence, the rabbits starve all day, and the baby birds all night. No bird ever hid its nest more cunningly than the rabbit. I have known a tame rabbit to make such a hole and bring up her family to a fair size before her keepers knew anything about it, though she was prisoned with others in a wire enclosure, not a rod, pole or perch in area. The feat looked on the face of things quite impossible, scarcely possible even for a creature with hands and appropriate tools.

Rabbits may be called twilight creatures as indeed are nearly all British mammals except deer and hares. They are to be seen by day, of course, and on dry, sunny days, however cold, love to lie in their "forms" in the open field. They are betrayed sometimes only by their wide-awake eyes, but have such a belief in the art of concealment that they will allow themselves to be caught by the hand. Nevertheless, dawn and lighting-up time are in the true sense their "salad" hours, the hours when they are most playful, and when they feed most eagerly. But there are qualifications. It is—for me—a recent discovery that the does are less nocturnal than the bucks. It is certainly true that they come out to feed first towards evening, and are inclined to stray further. The

tendency is probably correlated with the seasonal instinct—since the bucks are destructive parents—to wander away for the making of a nursery. The baffling speed at which rabbits multiply is due not only to the size and frequency of the family. The maternal skill and courage of the doe have much to do with it. They will even attack the stoat in defence of their young, though timidity is the strongest of their daily instincts.

8.

Here and there it is still vouchsafed us in England to see the greater birds dominate a whole landscape, as a golden eagle may in Scotland, or an albatross in the Pacific. They assume a masterful importance. You cannot but watch them ; and it is pleasure enough to lie on a bank and direct your glass along the line of their passages from feeding-ground to nest, or whither they will. Of these greater birds, one of the rarest and most powerful has of late years returned to haunts where he flourished in the time of Hereward the Wake ; and we may expect that his return is for always, so far as we may use such immortal phrases, since one at least of its haunts has become the property of the Norfolk Naturalists' Trust. It was a treat to spend an afternoon on this so-called marsh in Norfolk, watching a pair of Marsh Harriers. We saw Montagu Harriers, also rare and splendid, and that most hawk-like of the owls, the short-eared, and a few birds besides. But the Harriers were enough. They can make the scenery, as a great tree or two.

How intense is the zeal to restore these birds to their old homes one recent incident may indicate. Not far from this sanctuary, reserved "in perpetuity," is a great

area of marsh land that recently came into the market. The news came to the ears of a denizen of this wild and wonderful country ; but he had no time so much as to study the bounds of the property. He drove to a mill which gave a bird's-eye view of the scene, and said " If you say the Marsh Harrier breeds there, that is good enough for me." And he bought. People have come to regard the presence of these birds as giving honour and glory to the district, like a great building, or the birth-house of a famous man. When Shakespeare called England a " swan's nest in an ocean," his praise was couched in an idiom that a Norfolk man would appreciate. A harrier's nest in the marsh adds quality to county patriotism. How eagle-like these great birds are ! As I watched from afar the hen bird dip to her nest, Shelley's great phrase fitted her not less than the Promethean eagle : she too hovered a moment " in the light of her golden wings."

We came to this half-dry sedgy marsh after a morning in what must be the snuggest, neatest, quietest sanctuary within Europe. Most Broads have a waterway through them ; and at holiday seasons you are much more certain to hear the scream of mountebank music from a gramophone than the boom of the bittern or the drum of the snipe, or the liquid bubble of the redshank. The sanctuary is to some extent outraged by the passers-by, even if they do no direct damage and trespass only in spirit. Alderfen is distinctive in this, that it is " involved in its own virtue." Nature herself has placarded " No thoroughfare." No navigable stream passes through it ; nor does any road, other than a green, lead up to its cloisters. It is as hard to find as the centre of a maze. When you are once afloat on its waters you inhabit another world.

And Alderfen possesses all that a sanctuary needs : an almost dry marsh, in June as white with patches of cotton grass as any meadow with moon daisies. The open waters are hardly less white with water lilies, mostly singularly large in flower and broad in leaf. The islanded lake is ringed with alders and hedge plants, where the warblers flourish. The "thick chattered cheeps" of the sedge warbler were as continuous as the wild cries of the gulls.

Alderfen is one of the rare places where black-headed gulls—the species familiar to all Londoners—nest ; and the place is so congenial in its quiet that they have neglected their usual habits for its sake. They nest here like moor-hens on little islands in the water. And the pairs are faithful to the same home year after year, as may be proved by one example. The first nest I saw contained three eggs, of which one was blue, in queer contrast with the dull browns of the other two ; and the one constant guardian of the Fen, who performs a labour of love, has observed this same peculiarity for a number of years. Other eggs had just hatched. One of the chicks, when we first saw it, swam to a lily leaf, with the ambition to mount it, scratching at the edge like a dog up a bank. The leaf was not a quarter-inch above the water, but that was a great height, needing no little determination and athletic prowess to surmount. After many failures—and "what are our failures here, but a triumph's evidence !" —the feat was accomplished, and the callow chick stood proudly erect on the very middle of the lily-raft, which gave no evidence at all of the extra weight.

It is a liberal education to spend a few hours in such a place, even to know that such places exist, and to feel that they are secure. There are wonderful marshes and marish lagoons in Central Spain and in Northern Egypt.

Our naturalists journey to Hungary for a sight of the rare spoonbill ; but there is nothing superior to a quiet Norfolk Broad. Before the day was over I heard the bittern boom, a queer, sudden sound such as follows the pulling a pole out of soft mud. He is as furtive as the harriers are proud to advertise their flight, and the two may be taken to represent the extremes of rarity encouraged by the presence of such a sanctuary as hides itself at Alderfen.

9.

The stream, like Yarrow, has always been “ dear to the common sunshine ” ; and I cannot believe that

“ Localised Romance
Plays false with our affections.”

A reach of it has been familiar for years in its minutest details but will be so no more. The house on its bank is sold. The silver dace have rejoiced to rise to the summer moths, exactly under the bough of the sycamore, which, like a Roman bridge, joins the river. Along the pattern of exposed roots, the water voles and the grey rats have scuttled and the Jenny wren has played hide-and-seek. One day, as we watched such things, a large furry bat—a noctule—none of your little pipistrelles—fell from the deep green leaves of the sycamore into the blinding sunshine and lay paralysed by the light. Within a few years slips of willow, a foot or two high, have grown into great trees, a favourite roosting-place at night for broods of young swallows. How the pair of kingfishers delighted to fish from the half-submerged twigs when that stump of elm was first blown over into the water ten years ago !

All rivers are eventful ; and much may happen in a little scene, even on dry land ; but who would have thought that quite such a crowd of distinct events and impressions—some curious, some almost normal, but none too common to print themselves 'on the senses—would have come to mind all at once : the mere catalogue would be interminable, might become, in Calverley's phrase, "almost a bore." Spring, summer, autumn, and winter, you could not approach the bank, much less tread the low bridge without touching some sight or sound likely to be remembered for years, like the "two ducks on a pond" and "the green field beyond."

To-day the river itself is a green field, and more, a mirror that seems to absorb as well as reflect all the green things about it. It so happens that the high sun strikes the lower boughs of hidden trees along the bank, else blotted out by the near sycamore, with its close mosaic of leaf ; you see the sunny pattern only by reflection. The river is a succession of bowers ; and as always such pictures in a river have a quality never seen in still water. The moving surface gives an aspen-like quiver, an imparted liveliness to all that it mirrors, as if all were endowed, like the gnats and fishes, with their own power of motion. The appearance may be almost comic. At the moment among the many things seen in the reflection, but else obscured, are the figures of two squatted fishermen, whose perverted shapes are tangled among the swaying leaves, as if some grotesque Dryad—like the caddie-fly in the water—had not quite succeeded in escaping from its parent tree. You perceive only the stiff rod and bobbing float by direct vision. All the rest is reflection. The fishers will sit there, against the trunk of the sycamore, whose boughs quite bridge the river, hour after hour hoping against hope that the float will

suddenly accelerate its motion or bob up and down like a young moor-hen trying to dive. Or perhaps the peace of the scene, the stream and its reflections, have caught them in a mesh much more effectual than are their rods and floats and hooks against dace or roach or gudgeon.

The coarse fisherman who watches his float has the freedom of the river more surely perhaps than the fly-fishermen. He can "stand and stare" interminably or sit and stare—which is a Nirvana one degree nearer perfection than W. H. Davies's—just leaving the river and enjoying it. The moor-hen swim by him, jerking their heads and clucking. The grasshopper warbler runs out from his bush and utters the remnant of his churring note that so nearly imitates a fishing reel. He comes to know the surface of his reach of run so well that he can tell by slight surge and break just where the water buttercup is about to break the surface. The gold and blue patch where mimulus and water forget-me-not are tangled together is in his ownership, like a garden bed; and his eye has time to stray to a patch of bistort, whose flowers resemble some fairy caterpillar. He may claim that his fish are native to the place as the trout are not; and there shoals, unhampered by muddy floods or road refuse, multiply beyond the power of otter or heron or kingfisher to reduce. They and the fisherman are the true freemen.

Most of these are present to-day, the kingfisher, against all hope, among them. That was his loud quick cry, and that the flash of blue. Like the other fishermen he is apt to take his stand at a particular hour in the afternoon, not by the sycamore, but on the bough of a may that droops over the stream just below the mill. We shall see other birds in other places, but not the kingfisher on the may, not the pair of grey wagtails that

played like a fountain in front of it, not the swallows roosting among the shoals of willow leaves that have taken shapes and colour of the little fish in the stream, not the mallard with her ten young clinging like bubbles to her sides. Stiff bushes may stand upside down in smooth waters, but this running stream will not rock the light and shift the shadows till you lose distinction between the real and the reflected, and the sky comes down to the surface, and the hum of insect and croon of bird are timed to the music of the spheres. Then, in spite of the rare splendour of the day, that happens which always happens. Your eye is drawn from the general view, however splendid, to some little event of the moment. A quantity of brown moth-like flies are coming to the surface on either side the bridge. They are smaller and clumsier than the mayfly, which has not suffered the floods gladly. They resemble the caddis fly, but have not so well mastered the technique of perfect freedom. Their difficulty in emerging from one medium to the other is as troublesome as Christian's escape from his burden. They are born in the mud of the river's bed, must rise through to running water and lift from the surface to take the new freedom of the air on untried wings. They reach the surface ; but the last lap of the escape is the hardest. They use their wings only as a sail or as a seaplane its engine, and shoot eccentrically about the surface like the beetle that is called a water boatman. Their manoeuvres excite the curiosity of the scores of gnats that jerk about over the surface. These vain flies spend their whole time in butting at any small object which floats down the stream : and if the sycamores or willows have been dropping leaf or flower-dust, they experience several disappointments a minute. The speck is violently shoved aside and then abandoned for


another charge as vain. Their onsets on the emerging fly are more persistent, but presumably they neither get good nor do harm by the pursuit. You would infer that most of their activity was as aimless as the flight of the true mayfly, which does not feed at all. We follow instead the fortunes of the bigger fly; and one after many failures soars up and away to new regions; and after him we go.



JULY

*A Family of Five—A Butterfly Nursery—Where the Bee
Sucks—Heath Lovers—The Mower's Art—Friends or
Enemies—A Thirsty World—An Untimely Harpy*

I.

HEN the summer light deepens, swallows and martins, but especially swallows, gather, in greater numbers than we have seen all day, above and about the brook. It runs through the garden under the dark roof of a sycamore and half under a number of red-barked willows with narrow leaves as silvery as the little fish below them. It is a haunt on summer eves of midge and gnat, and for some reason beyond my ken, of the many strange March, April, May, and June flies that emerge from the waters. You would often think that some substance, maple syrup from the leaves or bits of flower or bract, were continually dropping from the boughs. Or the repetition of rings on the water, wide-spaced but almost continuous, suggests the opening of a summer shower. But the fish, mostly silver dace, are the only cause: they collect in shoals to the shade of the sycamore, for it is their richest feeding ground.

We presumed that the swallows assembled for much the same reason as the fish: they, too, had an evening rise. In the hot daytime they danced their merry round close over the satiny sheen of the hayfield. In the hours after sunset, when the air seems to hold the glow of the sun just as it holds its warmth, the swallows, whose form of rest is endless movement, left the field for the brown

stream. The passage of their flight so dwells on the eye you could half-believe its lines remained in a dim tracery in the air itself. You could look down on their blue wings and backs as they flew under the little bridge till, half-mesmerised by looking, you beheld the surface of the water through a film of flight-patterns.

Looking upwards from such a scene one odorous evening of late June, we saw one of the swallows play a strange antic. She rose from near the water-level at as sharp an angle as a tree-pipit or a ringdove practising its spring song or flight, fluttered for a brief second opposite the twig of a willow, and without further delay vanished into the darkening air. It happened that a moment earlier this same willow twig, rather barer than its neighbours and more directly horizontal, had caught our attention. In lieu of leaves it was decorated with five young swallows, four of them rubbing shoulders, and the fifth, rather larger and more fully coloured than the rest, perched at the remove of an inch or so. The old church clock had struck nine some while ago, and the light even beyond the shade of the sycamore was vague and dim. Exactly how the mother in that momentary flutter and check managed to pass the food to the young it was not easy to determine ; but we could see that at each return, after two or three minutes' hunting, she fed a different babe, though without apparent method.

One of the most precious sights in our natural history is the feeding of the hen Montagu harrier. She rises from her nest when her mate calls to announce his approach, and takes the food almost from his mouth in mid-air. The proudest man I ever met was a great naturalist, who had seen a pair of the yet rarer Marsh harriers make the same manoeuvre. Yet the swallow's feeding of her

young, if we may compare the little with the big, is as wonderful. The babes were delicately poised on a slight and swaying twig, but took the food without the flutter of a wing, or any further movement than the opening of the beak. Nor was there any of the clamouring one sees among young in the nest. And young swallows can clamour as greedily as the best. The feeding ceased about half-past nine, and the young seemed to shrink in size as their heads sank into their shoulders, and they fell fast enough asleep to allow you to go and see them at the closest quarters. They seemed as secure on their precarious perch as if they had grown there, like the native leaves of the tree. The experience was not repeated. Next dawn the birds went from the dark "into the world of light," and did not return.

He that hath found some fledged bird's nest may know
At first sight, if the bird be flown ;
But what fair well or grove he sings in now,
That is to him unknown.

The young must have been able to fly well, or they could not have perched there, far from their nest, and perhaps like a statesman of recent fame they wooed sleep by a nightly change of roosting place.

The swallows feed their young in every sort of place, in the nest from a standstill, on the twig from a hovering flutter, and on the wing when both poise and check their flight. One pair may rear three broods, even, on occasion four within our short summer. If all are to be fit and strong for the three thousand miles of flight that are coming, they must be strengthened intensively against this laborious autumn. So their young are fed later than most other birds, and at least as early. Even the roystering bumble-bees had gone to ground while the

family on the twig were being fed. The bats were out, and the orange disc of the moon took up the task of the sun before the mother swallow left her family to their sleep.

2.

On a little hill overlooking Oxford is to be found a patch of grass cornered among furze and bracken, and therefore out of reach of the haycutters. It has the sheen common to all groups of flowering grasses. They unite in just such subdued rufous colours as consort together in the feathers of an English partridge, and brownness or silveryness prevail, in obedience to the shifting breeze and erratic clouds. This soft gradation of tints on the Oxford hillside is broken by no "purple patch," now that the ragged robin, whose brown pods already rattle with seed, is no longer in flower. You might quote with more than usual appropriateness the horribly urban sentiment of Dr. Johnson that one grass field is the same as another grass field, did not this patch of unhedged grasses boast one peculiarity, that perhaps even an en-grooved oppidan might observe.

Not one or two grass blades, but scores are decorated with boat-shaped cocoons, and over the bracken as well as in the birth-place flutter a quantity of insects with wings of red and green. They are the so-called burnet moths, creatures whose structure and appearance and habits all shatter the wholly untenable distinction between moth and butterfly. They are brilliant in colouring. Their only fellow in this regard is the cinabar that I associate with N. Devon. They take their pastime by day and not by night; and their delicate antennae are thicker towards the tip. They delight peculiarly in the heat, and settle into obscurity when the

sun goes in. They are as little like most moths as the lady-birds are little like beetles ; and somehow one thinks of these two together. Are they not both classified and named from the number of their spots ? These moths are six-spot burnets, but the red patches are not always easy to count, for they merge into one another ; and though we are told to regard red and green as opposites, the two colours, as expressed in the silken tissue of these wings, consort together as well as the red stalk and green leaf of the sycamore.

It is rare to find so many butterflies or moths collected into one little place, though the tribe is known for its gregarious habit. And the crowding seems to have brought the usual punishment. A lamentable number of the pupae had been victimised by parasites, not on the same scale as the butterflies it was attempted to introduce into the London parks ; but the burnets were, to speak roughly, decimated ; and it happened not once, but many times, that the animal did not die till it had begun to break a hole in the shroud. The cases are singularly tough, more leathery and less silken than most, and entirely weather-proof. Now all the burnets began to escape into freedom within a day or two of one another, and at a date when the grasses were more than ripe. It is a dangerous delay in most fields ; and the thought occurs that the present practice of cutting hay earlier than in the old days may have disastrous effects on insect as well as bird life. We have almost lost the corncrake through a change in farming. The Cambridge roller has proved calamitous to plovers' nests, and the early cutting of lucerne is a worse catastrophe for the partridge than a succession of July thunderstorms. The draining of the Fens destroyed the great copper butterfly ; but of the change in the population of the small creatures we have

heard little ; and, indeed, the effects of farming operations on insect life have been little observed. Would the cocoons survive the felling of the grasses on which they are so firmly fixed ?

The burnet moths seemed to have a certain affection for their cradles. Again and again I found them, long after emergence and the first flight, perched on or alongside the emptied cocoon. Sometimes they chose the place for their courtship, rising

on stepping stones
Of their dead selves to higher things,

like the clematis, which habitually uses its own withered shoots for a ladder. Once only before did I see such numbers of burnets, and that was in France in the war, where they swarmed about the moats of a Vauban fort, in company with a number of swallowtail butterflies. There, in spite of the sheen and colour, they looked for once more moth-like than butterfly-like, so sluggish was their flight beside the gorgeous sweep of the swallowtail.

Of the many insects that delight our eyes, and that seem, for the mere reason of their splendour in colour, to escape the common classifications, is just one other summer fly, the demoiselle. The tribe of dragonflies, among which it is often reckoned, have the speed and savagery of hawks. Their clear wings are less visible than an airplane propeller as they drive the yellow body backwards or forwards, wherever the victims are to be seen. The demoiselles, with their dense blue wings and careless flight, dawdling about the waters that they haunt for mere love of the place, are creatures of another birth :

Earth's own compression of the heaven's blue.

They are not fly or beetle or dragonfly or butterfly or moth, but nymph and imago—to use technical terms

untechnically—of a world of their own, like Peasblossom, Cobweb, Moth, and Mustardseed. The midsummer dream and the midsummer reality almost coincide.

3.

Those strangely sensitive creatures, the hive bees, easy victims of damp and frost, whose energies rise and fall like the mercury in response to direct sunshine, should suffer grievous depression when summer months are dark and wet ; but our climate has many compensations. The summer of 1932 was very dark and wet ; but did ever roses flourish more gloriously ? and the rose is the crown of flowers. What is good for the blossom is good for the bee, or should be. They fulfil a mutual pact. The bee carries home on loaded thighs plentiful food for the young, but leaves as she visits successive blossoms her fructifying tithe. It is at a later hour that she gathers the honey for winter use : and the later the brood, the later the filling of the combs. Now the year has dawdled from the start, and most of its harvests are a little “ behind the clock.” The young bees were born too late for the apple-blossom, and it was scarcely to be expected that the hive would make good the delay.

The joy in the honey harvest has, therefore, been the greater ; and its unexpectedness has been acknowledged by the very elect. For example : there is a cottage with a southward looking garden always decorated with the architecture of hives as greater gardens with plinths and statuary. Behind, to the north and east, rise sheltering woods and hedgerows and slopes. You come upon the cottage all of a sudden with surprise, for it lies as snugly and modestly in its hollow as St. David’s Cathedral in its Welsh crevice. The number of full hives varies greatly ;



A J. Rooker Roberts

WISTARIA PERGOLA

it may rise to a baker's dozen and fall almost to the vanishing point. Through last winter three old and powerful swarms survived, and have worked of late with the self-sacrificial energy and gusto that are the expression of good health in bees.

Sic vos, non vobis, mellificatis apes.

In mid-July the roof was lifted, and from the three hives were taken by the chartered thief 176 lb. of honey. The long combs were filled and capped with rare thoroughness at a date earlier than any known in the cottager's experience; and the upper storeys of the sections added to give room for the accumulating booty. Here was a bumper harvest gathered beyond all expectation.

It is a wonderful thing, it is, indeed, a liberal education to watch, as I watched one afternoon this summer, the precocity of a nursing bee in action. The pallid, flaccid, tightly trussed grub begins one day to achieve movement. You see what Homer would have called the well-wrought cap of the cell heave and bulge. Soon it cracks like an egg, and out thrusts the dark head of the insect. It comes out and is withdrawn several times; for the bee, as compared with many other insects, is peculiarly precise to enlarge the opening sufficiently to make a safe, an almost dignified exit. One sees the dragon fly or moth wrestle with its case as if it were fighting an enemy; and, indeed, not seldom it is caught and never escapes with a whole skin, if it escapes at all. The technique of the bee is singularly perfect, and it is born, like Athena, in panoply. The interval of weakness and amazement is brief. The grub that was, the winged worker that is, climbs and crawls weakly, and often tumbles, but even the fall seems to be purposeful. She

thus arrives quickly by her exit and alighting board. She crawls directly into the sunshine, if it is vouchsafed ; the first intoxication of it inspires to flight, and the flight to toil. She is robbing and endowing the neighbour flowers with the best of her company in the first hours of freedom.

There are recognised seasons of honey-flow. The apple blossom, for which most swarms are not ready, is the first ; and rarely in a very hot year, when flowers have a short and crowded life, the blackberry alone is left for the autumnal workers, and this honey may be as dark as Burgundy. Between the extremes comes the lime, whose creamy blossoms are now turning to the likeness of a snail's horn, as the round seed forms on the point of the stem. But the triumph of the 176 lb. in an apparently bad year was not due chiefly to the lime, but to the wild white clover. This lowly native plant, that gives richness to the meadows—and the milk—has been more widely and intensively sown of late ; and the season has encouraged all sorts of clovers beyond expectation. Ever since the hay was cut, fields near these prolific hives have remained white with this clover, and it flourishes, as always, alongside the footpaths. Now, between clovers and bees is a peculiarly close alliance. On any flower-head you may tell at a glance which florets have been fertilised and which not by their colour and erectness. Was not clover, long before Lubbock underlined the closeness of the contact between bees and particular flowers, chosen for the quaint illustration of the dependence of the crop of seed on the number of old maids in the district ? They kept cats, who destroyed mice, who preyed on the nests of bees, who fertilised the clovers. These were bumble bees and probably red clover. It is a virtue of the white, according to the happy

bee-master, that it readily yields its honey to the smaller hive bee. The emergent babies were sucking its sweets within an hour or two of their birth ; and every two journeys of each yielded a whole drop of honey to the store !

4.

Is any bird quite so intimately connected with any plant as the grouse with the heather ? One might become almost mystic over their communion, for the bird is subdued to that it works in. Its very feathers, save for certain saliencies, are a heather mixture and the rich brown egg is of a piece of both with the bird's feathers and the surrounding heather. The genus lives only where heath of a particular sort flourishes, whether in Hereford, Wales, Yorkshire or its properest home in Scotland. Its health suffers if the plant suffers. Young grouse accord ill with old heather ; and the secret of the large covey and many coveys is abundance of young and growing plants. In our imagination as in natural history bird and plant are inseparable. The two belong : the flight of the birds down the slope of a moor has the effect less of common flight than of boats, smoothly and at one level shooting a rapid ; and on occasion the grouse look like bits of the landscape come to birth. This is when they skim the top of the heather along a hillside. They resume their individuality only when they rise against the skyline, when the silhouette is a shape no eye can forget and few artists resist.

It is perhaps curious that this bird, which is the sole species peculiar to our island, should be associated with plants that are unusually far-flung about the world ; are we to call them heather or heath ? The names are confused a little in common, and sometimes in more

specialistic speech. Indeed, there is no general agreement. Some botanists lay it down as a maxim beyond dispute, that what the world calls bell-heather is not heather, but heath; that the only plant rightly and properly called heather is ling. It is a distinction scarcely possible to uphold. And after all, why concern ourselves with the contradictions of popular and scientific nomenclature? Let the whole question be translated into the decent obscurity of the Latin. Bell-heather is christened in the registers *Erica cinerea* and ling, though belonging, of course, to the tribe of Ericaceae, is not erica but *Calluna vulgaris*. Now the heaths are of great variety and many forms of beauty, some flower in spring, some in autumn, some are lowly, some almost arboreal; and their home of homes is the Cape of Good Hope. But the ling or true heather, which is of one sort only, has a wider range than all the sorts of heath; and it is probably of this that the old northern prophecy was spoken that one day it would possess the earth. Heather, one may say, is a comparative: it is more than heath.

No plants in the world so conquer and overwhelm a district as this tribe. They allow no flaunting neighbours where they find a congenial home. Trees and grasses are both overcome; but it is a happy fact that in the heath country the bell heather and ling agree to consort together. On most English commons towards the Midlands, the ling only survives, and happily it is forced to share the surface with a number of lovely plants. On a characteristic links you will find mixed in with the ling, quantities of harebells, of bed-straw, white and yellow, potentilla, thyme, as well as greater growths: raspberry, honeysuckle, gorse, bramble, holly and juniper. But go west or north to the true heath regions and you may find the landscape controlled by the one family and

creatures that cannot live by heath and heather can scarcely maintain their tribes.

The best northern moors are blessed with a long period of flowering glory, for the bells of the heath belong characteristically to July, and of heather to August. The bees especially rejoice in the drawing out of the "linkèd sweetness"; but heather honey for the most part is heather honey indeed, not heath honey. As Mr. Tickner Edwards has charmingly described, the bells are not well devised for bees. They cannot reach the honey by the direct and proper route, though they can filch like a thief who enters by a forced window. The ling offers everything that a bee could desire. So close and thick the flowers grow that no time and energy are wasted in search. So open and yielding is each little flower, that as little time and energy are wasted in extracting it. The honey flow is even freer than when the limes scent a southern field, or the grasses are white with our native clover; and the product is more distinctive.

A good beeman can snuff a comb and tell you whether the honey was yielded by apple or lime; but his delicacy of sense is not given to all. A grosser eye and nose can detect your heather honey, so prepotent is its sweet and yet bitter tang, so distinctively uniform its golden tint. It is as different from other honeys as wheat from oats, as honeysuckle from jasmine.

Though few scenes inspire us more than the wild moors, which the grouse have made their own; and we want no other plant than the heath, nor any other bird than the grouse, there is a peculiar pleasure in the often grassy butts, breaking the colour and the contour. Even the birds enjoy them. After a battle (on the advance from the Marne) I found a covey of partridges feeding

in a gun carriage that had been hidden under corn stooks which had dropped their grain in it. The memory of it was recalled by finding a number of signs of the visits of birds to the butts, though the most obvious, it must be confessed, were the remnants of the meals of hawks. A particular pair of merlins nested in the heather, but they liked to perch and feed on the butts that were the only feature rising out of the brown surface of those western slopes.

5.

“Good hay, sweet hay hath no fellow.” An Englishman may endorse that succulent appreciation without growing his ears unduly long, for is not “the smell of new-mown hay” quoted in the English tongue times without number by cross-Channel writers? I do not know whether English hay was sweeter than other hay in days when “the midsummer night’s dream” was dreamt or that it smells sweeter to-day. Indeed, I suppose the sweetest of all grass is grown on Swiss uplands; but we may all say, letting literally “odorous” comparisons go, that our island hay is very sweet. It is also very frequent. We live in a green country, where, save in the eastern counties, grass matters supremely. Sir Thomas Browne might have extended his praises of the quincunx, as a pattern for trees, to the five-sided haystack that decorates our landscape with its solid architecture in the early English style.

In tune with the season, I mowed one July a piece of rough meadow with that half-extinct instrument, the scythe; and during the agreeable process was granted some new light into the meaning of grass for those that look up through it, as well as for those who look down

into it. But first a word about the mowing itself. I have often thought—and sometimes said—that we ought to have little books and paragraphs in newspapers telling us how to mow or dig or hoe, just as we are told how to drive or play forward or volley. During this latest spell of mowing the thought advanced a stage. The most telling of all the tags of the golf-coaches is an incidental dictum from the mouth of the invincible Bobby Jones : “Take it back with the left hand and stroke it through with the right.” Almost the whole art of mowing is concealed in that pregnant maxim. Scythe and putter share what Cicero called a *commune vinculum*. An inevitable swing and rhythm result. Risk of digging the turf vanishes. The follow-through becomes automatic ; and the circle of the blade does the rest.

Now in this particular bit of meadow, where Bottom's eulogy and Bobby Jones's maxim bumped one another in the mower's head, many very different animals are fond of making their homes. The scythe, more fortunate than Burns's coulter, disclosed but did not harm the nest of a field mouse. It is no “wee bit heap o' leaves and stibble,” but a good big satisfactory house of soft grasses. It is not very different in structure, though considerably less carefully welded, than the woven ball of grass and bents in which the dormouse sleeps the winter through. Inside its retreat the mother gives suck to a litter of blind naked young, with enormous heads, looking hardly more highly developed than the baby kangaroo, which is born in the state of an embryo. How different from the young chicks that a strayed hen had brought forth within a few yards of the mouse ! They chirped while still in the shell, picked up food and answered the mother's call while still wet from the pre-natal food.

The mice are peculiarly fond of that English grass well christened Cocksfoot ; and therein they agree with the farmer. But they find different virtues in it. The lusty growth that produces much fodder, causes a tuftiness about the base ; and often at the edge of the tuft is a bare hollow. That is the spot chosen by the mice for their nest. There are easy runs roundabout and complete concealment. When the "abhorred shears" of the Fates threaten they do not "slit the thin-spun life" of the baby mouse but slip overhead. Even when the swathe overlies the nest it is no more inconvenience when horizontal than vertical, though the house is darker. And perhaps the mice too—who shall tell?—enjoy the smell of the new-mown hay.

Was ever hay sweeter than this year's ? One morning some little rain fell and the sweetness was like a sweet-briar hedge at the hour of the sunset mists. And the hay will keep its sweetness. The bulk is small. Some of the level fields that the newest mowers have shaved look almost like golf greens or lawns where wagtails bob their heads and twinkle their eyes. Some few, also like indifferent lawns, are quite white and still very sweet with dwarf wild white clover, a plant that has flourished this year almost beyond precedent. The thin, neat swathes were neither tossed nor tettered but carted and stacked without intermediate processes. The pentagon ricks are green, not brown, and if you pass a quarter of a mile to leeward you cut a belt of unvitiated sweetness. Even when the rick settles to half its present height and the greenness pales and the broad, crooked-handled knives make stiff walls of the ragged edges, it will still be a satisfaction to nuzzle there as you would bury your nose in an old Gloire de Dijon. Old hay smells almost as good as new hay.



MOWING THE HAY NEAR STUDLAND BAY, DORSET

J. Dixon Scott

In the bit of meadow, where the mice and chicks came into the world, it is odds that before the grass is carried will be found a nest of carder bees, filling yellow-green honey pots under cover of grass blades, again not so very different from the mouse's nest. But those usual inhabitants will not produce their young just yet. The grass was full of other insects, of the untellable microlepidoptera, as well as the hymenoptera. Various species flourish in different years, as any mower especially notices. I never disturbed so many burnet moths as during the summer of 1932 when mowing through longer grasses. But the mowers with scythe or cutter have been most amazed by the young game birds. As a rule mowers run the risk of killing both mother partridge and mother pheasant on the nest. This summer, though haytime is not after its due date, the young birds are already fleet of foot, and able on occasion to make little flights of escape from the noisy harvesters. And the families are big. In my mind's eye is one, numbering fifteen, who have yet to experience the threat of their deadliest enemy, a succession of midsummer thunderstorms, wetting and re-wetting their callow feathers.

6.

Any hour when the sun shines the queen wasps are busy among the leaves of a certain small plum tree virulently attacked by the so-called green-fly. For some reason we describe this abominable aphid as green, whatever its tint, which is sometimes yellow, sometimes, as on the plum, almost as purple as the fruit. The green-fly multiplies more quickly than any other insect; mathematicians have calculated that its unhindered progression would destroy all life within a few weeks. The greatest

of all enemies of the aphid is the queen wasp. I should say she was even more useful than the lady-bird, or even the crocodile-like larva of the lady-bird.

To kill a queen wasp is an act I cannot face, on positive as well as negative grounds. Throughout the hard winter she has nursed her long fertility. Since she woke and escaped from her crevice she has worked like a Trojan. She has tunnelled a hole ; she has collected material ; she has converted it into paper ; she has modelled the chambers ; she has laid the fertile eggs. Her task has been more than Herculean ; and, incidentally, in the course of it, she has done her bit to maintain the nice balance of nature, by which this England is kept from pestilential extremes. It seems in some sort a *lèse-majesté*, a treason against sovereign forces, to slay her incontinent and while gravid with the promised swarm.

Such pleas have little logic. It may be good sense, but it is not logically humane to beg the life, say, of an owl because it kills so many, many mice, or even of a swallow because it devours so many flies. Nature, red in tooth and claw, gives us good parallel and precedent for going forth with an old tennis racquet to murder every queen wasp or white butterfly (the only harmful butterfly there is) that we can find in the garden. There are those who do. Let them do it. We can only follow our irrational emotions and for myself I cannot bear to destroy a queen wasp. That refusal is more or less independent of the superimposed argument that the wasps, queen and worker both, are of real use in the general economy, though an undoubted offence and subtractive from our breakfast-time pleasures when in excessive numbers.

In a neighbour's garden you may find at any hour among his lines of peas a whole family of hawfinches,

which apparently spend their time in ripping open the pods. The gardener has issued an appeal for the use of the gun, and the owner has to decide between peas and hawfinches. The odds are that the hawfinches will win. What handsome birds they are, with streaks as yellow as the bands of the queen wasp ! And even in flight you can notice the strong mother-of-pearl beak. It is doubtless a destructive weapon ; and most of the finches, of which this is much the most powerful and ruthless, if least common, can be terrors. I have seen greenfinches fall in scores upon seed-crops of mangels. I have seen fruit trees stripped almost bare of buds, not by the most persistent bud-eaters, the bullfinches, but by the usually harmless chaffinches. Many gardeners, perhaps most, hate all the finches, and would put an end to them along with tits and strawberry-eating blackbirds and apple-eating starlings. But the gardeners are certainly wrong. The particular injury does not count in comparison with the general benefit, and the greatest benefit, apart from the general balance, is the pleasure of watching the gaudy wings and merry gestures and hearing the happy songs and calls.

It is a difficult subject, this balance of nature. We upset it wherever we mass any crop. A field of oats or a quarter-acre of daffodils make life easy for the eelworm and white grub. Preserving game may upset or may restore the proper equilibrium. There is no question, for example, that pheasants, which may bring disease to an over-peopled woodland, have done essential service to farmers since their introduction to certain fen districts short of other birds. Gamekeepers have multiplied mice, and perhaps rats, by killing foxes, stoats, weasels, owls, and hawks. They have done more harm than good ; but they have saved many young birds of all sorts by

killing carrion crows—artificially multiplied by increasing suburbs—and magpies, and those pernicious immigrants, the grey squirrel and little Spanish owl.

We live in an artificial world, and cannot help interfering. To give small instances : It is a growing custom to offer nesting sites to tits, but none to other birds that need them more. Our towns send forth innumerable sparrows to destroy the wheat of the poor countryman. Our cabbage patches multiply the common white butterfly, and our enmity towards nettles decreases the admirals and peacocks. We drain fens and banish the bittern and great copper butterfly. A balance artificially upset must on occasion be artificially restored ; but we can say that in England, at any rate, this balance, as a rule, almost automatically restores itself ; and we can trust to the general rule to believe all animals friends until they be proved enemies.

7.

When our world is sunny and rainless for a few weeks we lament the drought, scarcely knowing what the word means. Well, this July is as dry as last was wet, but when we go out into the night we are aware chiefly of a delicious softness of the air, and even the short and almost crumbling grass on which we tread is be-diamonded or be-pearled with drops that may be big enough to throw back the thin light of the moon. The air is so moist that it sucks the sweetness out of the leaves of the sweet-briar, till the garden brims with it. Scents that belong to a misty air touch the senses alongside the driest hedges, much more in the gardens. The great discs of the elders, themselves like moons, gleam in the moonlight and lay their sweet, heavy odours on the invisible mist.

You may bathe your face in the dew that means life to half the inhabitants of the field. By night and by twilight, whether of morning or evening, drought seems an unreal word.

Nevertheless, it may be catastrophic even to some haunters of the night. After the long drought of the summer of 1921, when even the English grew weary of the sun, it was noticed that some of the bigger beetles were curiously scarce; and some definite evidence was found that they had perished—as marauding grasshoppers are intentionally trapped in South America—by falling into the cracks in the ground. These cracks may be of surprising depth on the claylands of England: an ordinary walking-stick will not plumb them even to-day, where dryness has been modified by thunder showers. The fissures, which to some of the victims are yawning crevasses, swallow many young partridges, and some pheasants, and smaller ground-nesting birds; but the total sum is probably not large. Birds, if not beetles, vanish, where and if they vanish, from less sudden collapse. It is not only the plant that may progressively wilt and wither under dry suns.

We know with scientific accuracy just how the plants protect themselves and keep hold of the moisture they possess—by hairs and movements of cells and sacks of air and turning of leaves. Though these qualities are more salient in drier countries, our own common plants give many pretty instances. The wood sorrel, that was spread out to catch the light contracts into a protective triangle; and both the colour and consistency of the underside of a blackberry leaf disclose its power of keeping evaporation at bay and warding off the heat of the sun. Nothing, I think, more constantly impresses itself on the eye of an Englishman visiting Australia than

the comparative absence of shade under a leafy tree. The cunning leaves of the gum trees, curiously protected by tissue as well as form, turn their edges to the sun, while British trees—above all the sycamore—make patterns wholly designed to catch whatever sunshine may descend. What glorious depths of shade we have ! And the umbrella leaves, fed from tap-roots that touch perennial moisture, seem not a penny the worse for the hot exposure.

We know a deal about plants and their xerophytic ways. We know singularly little about the animals and their response to drought. There are toad-like animals in Australia which have water-reservoirs within their bodies so capacious that they can live on it for a year and more. It has proved enough on many occasions to save native tribesmen (who are all practising biologists) from death by thirst. But extreme adaptations of this sort are not found in Britain ; and we are astonishingly ignorant of the responses of animals to the absence of water. A marvel of this year is the productivity of the rabbit. Its multiplication is always rapid enough ; but during last spring hundreds, even thousands, appeared in places that scarcely knew them. I know one such place, which is unusually dry and dusty, and remote from pond, pool, or stream or other source of moisture. How do they live ?

It is, I think, quite certain that they do not seek water, do not, like great beasts of Africa, resort to pools at night. The rabbit is a home-keeping creature, that hates to remove itself more than a few hundred yards from its "bury." During the hot part of the day it aestivates, so to say, lying snug and still in a "grassy form" or in a cool cellar underground. When it is out and about there is almost always dew ; and as long as it has something green to nibble all is well. How singularly wet and

juicy is the under part of the bark of the sapling ash trees that are its favourite food—at any rate when garden pinks and carnations are not available! After all, even a man who is vegetarian and fruitarian—as some have proved—can live happily enough without drinking at all.

Most animals are thirstier. If one thing is more quaintly instinctive than another in the chicken of the domestic fowl it is its skill and desire to tip water down its throat by gravity! Pheasants, partridges, even the birds of the moor share this need of water, at least in some measure. How the small birds of our garden flock to the artificial bird-baths, though some species are much thirstier than others. In my experience the profoundest drinker is the goldfinch, perhaps because thistle seed takes a deal of washing down! In a drought of last year a fox and a grey squirrel were drowned in one garden pond with steep stone edges; and as neither was known to frequent the immediate neighbourhood we may presume that they came a long way to find the water. A number of examples are on record of brooding grouse travelling long distances in order to soak their breast feathers in water and carry the spongeful back to the thirsty moor; but I do not know whether any other bird habitually practises this device.

In the absence of evidence of long journeys to water, it is likely that most animals are kept alive by the dews, the almost invariable accompaniment in Britain of the clear skies that belong to a time of drought. The birds sing for joy of it before the sun is up, especially the larks who live on the upland commons. Food is more important than drink. After all, the sheep and cattle, whose bones whiten the plain in a rainless season in Australia, often suffer more from starvation than thirst. Fresh green grass would serve them for both meat and drink.

Yet when all is said some birds and some animals (like the annual grass, *poa annua*, whose withering makes the brown patches on our lawns) thirst for rain :

Rain! O the glad refresher of the grain!
And welcome waterspouts, had we sweet rain!

It were a wise and a kindly thing in any summer drought to provide water, not in gardens only, but in the dry fields where no ponds are and the grasses are not drenched.

8.

A queer incident has been watched with daily excitement in a neighbour's garden and orchard. So far as my experience goes it has no precedent. A red shrike, that robust and most warlike of birds, has been attempting to build a nest and bring up a family in the garden. A pair finished the construction of one nest and two eggs were laid, when the sparrows descended on it and ousted the shrike, it is not known how, built a sort of roof to the nest, and proceeded to lay their own eggs alongside the shrike's. The two lots of eggs lay side by side, but one of the first clutch was taken by the observers. A little later some marauding boy carried off nest and eggs. So the story came to me by report. The rest of it is in part personal observation. I was called in as assistant sleuth.

The shrike began to build again, not very far from the first site, and still in the garden. The nest was just ready for the eggs when again the sparrows came down, like the Harpies in Vergil, and once more took the nest as a foundation for their own. The joint architecture is a most absurd affair. A normally neat nest with an open cup finely lined is the foundation of one of the clumsiest

bits of hedge carpentry that you could find. Dove-tailing is wholly to seek. A tangled mass of ill-woven hay-stalks and rough feathers crowns the first structure. There seemed no reason why it should not blow off. So far as could be seen, not two sparrows, but a number, were concerned in this base desecration.

Sparrows, of course, are even less heedful of seasons than are the rabbits. They will build, if not lay, in December, or, indeed, any month of the year. They obey no laws. They will build and live in flats—as this year in an ivied sycamore in my garden. They will build houses half under cover or out on the open boughs of trees, sometimes singly, sometimes (as you may see in Battersea Park) in colonies. They will seize and alter other birds' nests, as the swallows and martins know to their cost. The starling is as regardless as the sparrow, and certainly grows worse, produces a *progeniem vitiosiore*m—I found casual eggs laid on the orchard grass late in June. They and the sparrows worry their way into almost any sort of nesting-box. One sanctuary has lost seventy per cent. of its nesting-boxes to this enemy, who needs neither law nor date.

Doubtless many birds will nest out of due season if fate has been unkind to previous broods. In a brief country walk in the first week of July I put up one covey of partridges which were capable of strong flight. The squeakers certainly flew two hundred yards. They were old and proud fliers. They were grouped at the edge of a good crop of wheat. In the next field, laid down to hay, and for some reason not yet cut, was a partridge still sitting on eggs. I have found a bird sitting as late as September 1. Some birds, especially buntings, normally nest in late summer. I have records of very late yellow-hammers: and in France found a rare bunting

brooding eggs in July. The corn-bunting usually nests in August in our eastern counties. Birds are often irregular, but it is, I think, only the tribe of irrepressibles, whose power of survival is beyond risk, that normally defies the calendar.

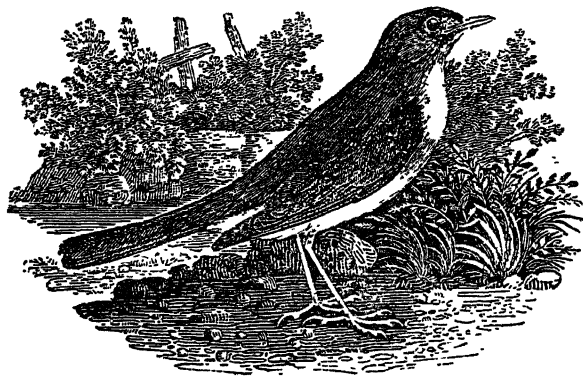
A detail of which we know little is how long a bird will continue to brood eggs that are frozen or for some reason are unfertile. This summer, for the first time in my life, I saw a clutch of merlin's eggs; they were laid on the dune in a western county. The nest was well away from chance of casual disturbance and had been protected so far as possible by the few who knew of it. But the eggs never hatched, and were finally removed when the bird had been brooding them over six weeks: and she was still sitting close on the day they were mercifully removed. The grouse, one of the birds whose eggs are liable to be frozen in a late season, will, if allowed, continue to sit so long that no time is left for raising another clutch. The keepers after any very severe frost are wont to make a tour to rob every nest they can find. But for this kindly cruelty the birds would sit indefinitely on the frozen eggs.

Yet late nests and late songs are not necessarily due to accident. The year is seldom quite so old as we think it is, or the books say it is. Spring survives into summer, and we are granted many an autumn day of which we may quote:

It seemed a straggler from the files of June.

This continued youthfulness of the year is real enough as well as phenomenal. Spring is in being to-day though midsummer is well past. Young are coming to birth. Birds are still singing and building as seeds are still germinating and first flowers blooming. Because some

birds, such as the nightingale, stop singing at a very definite date, and do not resume, it is too often presumed, even in text-books, that the songs of birds are hushed to allow for the hum of insects. Not only the late nesters sing late. If you do not believe, walk early or late across a common and listen to the larks and furze chats.



AUGUST

*Garden Scents—Wasps and Queens—A Birds' Paradise—
Seaside Shells—A Fuchsia Cradle—A Bees' Festival—
Scenic Roses*

I.

SOME say that no proper bridge is built between the blue flower and the gold, between the flames of June and the embers of September, between anchusa and chrysanthemum, between lupin and dahlia, that August is short of proper glories of its own, missing the distinction both of summer and autumn, its bearers. In our gardens we shear the heads of foxglove and delphinium and snapdragon lest the colourless seeds should remind us too emphatically of the death of summer. Yet even in flowers it would be easy to make out a good case for this season ; the ceanothus is a lovely blue, the hollyhocks include most other shades, the "burning bush" is very much aglow, and even delphiniums and roses, especially the supreme Betty, attain a second spring. But I would insist on another and a more particular virtue in the present days. They excel in sweet scents.

It would be a pretty idea if we should give every month a flower's name. August might be called the jasmine month, and this is almost the sweetest of all the flowers that grow in the garden, always excepting the bush we wrongly call syringa. Many great men have had peculiar delight in it. It has the quality—possessed by some briars, but by no roses—of imbuing the air : and

this generosity, this public largesse, is the chief mark, though there are others, of the most characteristic Augustan flowers. You know they are sweet, often—if jasmine grows against the wall—before you leave your bed in the morning, in any event as soon as you walk in the garden. If we pursue this gift of certain plants to enlarge their scent we may touch some curious influences.

There are exactly two plants—at least in my garden—that smell as honey smells: the *Buddleia*, whether *magnifica* or *veitchiana*, and that queer, some say positively ugly, shrub, the *diplopapas* (*cassina*). It looks like a heath and seeds like a groundsel, but its scent is indistinguishable from neat honey, even to inclusion of that suspicion of bitterness which co-exists with the utter sweetness of a fresh combful. Waves of it hit you as you walk down the path; and strangers to the bush ask you where the hive is. Only when you have smelled the *diplopapas* at one end of the path do you know that the *Buddleia* you smelt at the other is only honey-like, not actual honey. Though the bush continues to blossom for an unconscionable time, its discs broadcast the scent in this way only at the later dates, in particular sorts of weather.

Now, if you notice, the makers of honey do not care for these neat honey smells. The *diplopapas* is a certain lure for some species of burnished flies; and most flies enjoy it. Occasionally a cabbage white butterfly will join them. The *Buddleia*, as every gardener knows, calls afar to the most gorgeous autumn butterflies, especially tortoiseshell, admiral and peacock; but neither is popular with bees or their tribe. You find on the mauve trusses and the white discs neither honey or bumble-bee nor any wasp, which at best is not a great flower lover. The volatile scents, whatever their chemistry, do not

seem to appeal to bees ; and the honey scent least of all. This is strange, for honey itself will draw bees even through a key-hole if there is room to pass. But in honey-collecting the bees (according to the philosophic dictum of Mr. Jorrocks when he was offered mince) prefer to manufacture the juice of plants to their own recipe.

The chemistry of scents is in a backward state, and in any case the senses of the insects are refined to a point altogether beyond our analysis. It is difficult so much as to conjecture what bees will like. They enjoy lime and sycamore, which though not honey-like are to some degree broadcast. They have a passion, to give random examples, for the almost invisible and unsmellable blossom of the alien bush, *rhus cotinus*, and of the little white dull-flowered purple cranesbill. They will "short circuit" some flowers too deep for their proboscis to plumb, going, as it seems, beyond the original design of nature, for the biting of a short-cut through the petal much more resembles an acquired trick than a native instinct. Yet in others they restrict themselves for the most part to the blossoms to which their organs are peculiarly adapted. How they exult in the true heather which is also called ling, quite avoiding, when both are present, the bell-heath, which some southerners regard as only the true heather !

Both flies and butterflies go to surprising extremes. You may look for the peacocks, either on the honey flowers of the *Buddleia* (where they are so busy that they will let you watch them from a few inches uncurling and curling up that portentously long and delicate proboscis) or in some bit of fallen apple so rotten that it resembles carrion. Many flies are like them, equally fond of what is to us foul and foetid, and of these sweet and delicious

discs of rare blossom. Leaves that part with their scent, as the sweetbriar's, never more expansive than now, do not apparently touch the senses of insects ; but the lavender, that smells in vain till the flowers are out, to-day draws all the sorts of bee, the white butterflies and the "froth-fly." As you brush through a bordered path of it you flush a various crowd, but will find only flies on the jasmine where the path ends.

2.

The gardener found a wasp's nest in the bank and asked me to "take" it, as on one occasion a maidservant found a hedgehog and, in terror, asked me to come and kill it. It is usual when a wasps' nest is discovered anywhere in Britain, to mark it down for destruction. For no very good reason, perhaps, beyond his warning colour, this yellow-banded insect is treated as a universal enemy. We forget that it never stings unprovoked, indeed is mostly more friendly to man in this regard than the hive bee. Bees have their nasty days, especially perhaps the dark Italian variety, which is much more nervous than the old English bee. They are moody, and one of the moods is a mood of savagery, which is imparted to the neighbours. The sting lets into the air a peculiar pungent smell, instantly observed by other bees, who are incited to battle the moment it reaches their senses. The poison, indeed, is so perceptible that a young bee-keeper of my acquaintance, though retarded by the dull senses of our race, can distinguish this scent so readily that he at once asks who has been stung. It may be that the same signal to general warfare is given when a wasp stings ; but there is little sign of it, and one may lie down—*experto crede*—as close as one pleases

to a wasps' nest and observe their ways without any great danger of giving offence or receiving punishment.

It is a wonder that the wasp survives at all, so general is the destruction of nests and single wasps, but the reason for its invincibility (at least in the most common variety, for there are many) probably lies in the multiplicity of queens. A man with a cotoneaster in his garden—for that by common consent is the most certain lure—or tobacco plants or any bush that is attacked by blight early in the year, may destroy many hundreds when they first emerge from hibernation in May or June. School children are now drilled in the technique and moral duty of destruction. Several records of a thousand to the credit, if that is the right word, of a single warrior were reported this spring, which was not as a rule remarkably populous. It is generally presumed, though without any scientific certainty, that all these queens are fertile, and the common belief—or superstition—is that their power to survive through the winter—unshared by either male or worker—is mystically correlated with this fertility, which cannot express itself till the coming summer. You would think that if all these queens were preparing to make nests, life, especially at the breakfast table, would be unbearable. As things are the wasp is much less of a trouble to man than, say, the earwig, or the fly or the midge.

The greatest and most terrible of the wasp tribe, which might be expected to have as good a chance of survival as *Vespa Germanica*, has almost vanished from most English districts. Indeed, many countrymen in many counties have never seen a hornet. The discovery of an immense hornet's nest, an even more wonderful building than the common wasp's nest, stands out as one of the most startling experiences of my youth ; and it has not

been repeated since. I should say that the hornet, certainly very much rarer than it was, is on the way to extermination, though, like the wasp, it has virtually no enemy but man. It is true that badgers will on occasion dig up a nest to devour the grubs, but badgers themselves are a small and diminishing tribe, whose night-time habits disqualify them from discovering nests.

Nesting wasps are singularly amusing to watch because of the persistence and intelligence they display. Experiments are easily made. You may cut off a paper section of the nest every day that the nest is in being, and it will be repaired before evening. However big or difficult any obstruction you put across the entrance, it is odds that it will be removed or circumvented within a few hours. The workers will pave and repave the entrance passage with a hard polish suggestive of linoleum; and all the while other workers are increasing the pagoda-like covering, are making new paper cells, are feeding the grubs with chewed green-fly or what-not. Even the pampered grubs themselves become energetic. They spin their own silk and block their own cell-ends, against the three or four weeks' rest in the chrysalis state, and at the end eat their own way out to freedom, which is at once expressed in hard work for the community. The queen, that finds and adapts the hole, that manufactures the paper and builds the first cells, that lays the eggs and feeds the hatched grubs, is the worker of workers; and it is the sum of work that is most astounding in the wasp. But this would not ensure its survival. The tribe seems to owe its invincibility as a species to an abnormal production of queens—and of males—towards the end of the season. The males, with a segment more both in body and antennae, come late because they are born of workers', not of queens', eggs; but the queens

come late, too, and in large numbers. Has science ever considered this comparative superiority in the wasp to other similar races? or decided whether most of the queens are fertile?

The wasp is so versatile that you may watch a thousand nests and still see new things. I destroyed one nest, not without considerable reluctance, and stayed to watch the behaviour of the few late travellers who had been excluded from destruction. They could not find exactly where the entrance had been, but after vain buzzing round the spot discovered a small hole about a foot away and alongside the root that roofed and protected the nest. They began to dig. Only five or six were present, and one of these carried off pellets of earth and rubbish that she could only just lift. Her wings moved so furiously as she rose with the burden that the fanning blew bits of bent and paper to a considerable distance, and there was one grass blade that waved as in a hurricane.

The family in question was very strong. It must have numbered at least two thousand strong, and was doubtless on the way to reach four or five thousand. But even when you have with infinite trouble dug up a nest so carefully that you may roughly number the cells you have still no assurance of the accuracy of your census. The paper is so strong and well made that the cells may be used, and, so it seems, often are used, two or three times over; and more and more of the wasps, if I may conjecture a point, spend the night outside the nest, in crevices of the bark, under ivy leaves, or in the hollows—to give a modern instance—of the codling apples that they have hollowed out. What a contrast was this nest with its thousands of workers to the little select community of another variety of wasp that were nesting near by in a mouldering elm stump!

3.

I have been visiting one of the most Broad-like of the Broads, recently secured in perpetuity by the Naturalists' Trust of Norfolk ; and those who have dawdled among the Broads, on a wherry or a raft or even their ten toes, can scarcely hear the word without a score of pictures of wild life, as well as of scenery, of duck and hawk and butterfly, as of river and mere and sail, rising before the mind's eye. Alderfen, the new sanctuary, is a little Broad. Hickling, the earlier sanctuary, is a big Broad ; but they have much in common. The essence of what is meant by a Broad is in both.

Norfolk is a county where most topographical accidents have worked in the interest of particular animals, which find the same sort of benefit that Hereward the Wake found on the Isle of Ely. Not one river, but several, have found themselves in the course of their history baulked of their aim just as they approached the sea. Within a few hundred yards of their bourne they have been arrested, have compulsorily turned aside, and flowed thereafter for a mile or two parallel with the sea. The intervening spit of pebble, sand and marram grass has given certain birds, and certain rare plants too, their optimum—such a set of favourable conditions as exists nowhere else. Even mammals have benefited. If you do not believe it, go watch the seals basking on low-tide sandbanks, just beyond the nursery of the sea-swallows off Blakeney point, or watch the great horned poppies on the pebbly ridges both of Norfolk and Suffolk. As you step daintily among the crouching young of the Sandwich tern, you are sure that no place in the world can be a more natural or a richer sanctuary. Nevertheless, the Broad (and the Breckland) excels even these spots in catholicity of appeal.

I was on one Broad in 1931 which had changed its scenery since a previous visit. One great raft, containing alder trees and reeds and other growths proper to the place, had detached itself, and had proudly sailed before a south-west wind across to the further shore of the open water. It swung and quaked as you walked upon it, seeking for nests, but was safe enough, though not fairly anchored, and, maybe, it will start on its travels again when the water is high and a strong wind blows off the shore. That particular Broad, like Alderfen, is not directly penetrable by sailing craft. It drains out by a reedy ditch to the river, and lies invisible behind its willows, alders and reeds, a perfect retreat, not even suspected by the river traffickers. You may find the "pitch" where day after day the bittern stands and fishes, the well-worn path where the not less furtive otter journeys nightly from Broad to Broad. On the reedy islets, all awash, the crested grebe slips from her nest to fetch from the underwater a green lily leaf or two for covering her eggs. Among the higher and drier reeds the restless warbler of the sedges pours out his "thick chattered cheeps." You may find at the edge the water dock near by the place where great copper butterflies were "enlarged," and, we hope, flourish.

It is not enough for the exploration of a real Broad to travel in a row-boat or a flat-bottomed canoe and poke among its reed or sedge beds and its odd islands. The Broad may include dry acres as promontories or peninsulas. Never in my life, except among particular colonies as of tern or gull, have I seen so many contiguous nests as on a part of Hickling dry enough for cattle to feed. You had to dodge the plovers' nests and keep wide eyes for fear of treading on them. Clumps of rushes often no bigger than a horse collar wholly concealed the nests

of numberless redshank, avoiding the sight of their chief enemies the Montagu Harriers. Nests there were of stonechats, and of bearded tit, and later, of grasshopper warbler. Duck are nothing accounted of: but near by a landowner has carried out the happy idea of keeping tame duck of many rare sorts in half-captivity by the margin of the Broad. The wild birds fly up and swim up to make acquaintance; and you can scarcely distinguish the boundary between wild and tame, between "the desert and the sown."

One bird, and one only—the big bird best known of all to Londoners—must have a piece of country that is flat and dry, and yet suggestive of water. It is more exigent of a particular optimum than even the Sandwich tern, to which it has certain resemblances. This fastidious bird; the black-headed gull, has been in trouble. It has almost lost a favourite nursery in Herefordshire, bullied out of it by a concentration of enemies, of which the worst is man or boy. One of its breeding-places has been and will be Alderfen, which is of the Broads, broadcast, possessed of every virtue of quietude and variety, though little in extent—"a swan's nest in an ocean," like England itself.

Even a sanctuary—in some regards especially a sanctuary—is a battlefield. A harrier stoops on the young redshank, the otter harries the nursery of the gulls, the fish are a fair prey to the waders. We can give to animal, insect, and plant no more than a partial protection. But it is much in itself, and it means much to the denizens, that the naturalist is outside the fight, a beneficent and impartial neutral. The balance of nature is kept, and already a great stretch of this almost primeval region, in spite of its crowded wherries and their caterers, resembles the county of the twelfth-century chroniclers,

and recovers the tribes of bird, beast, insect, and flower that Hereward knew and the monks chronicled.

4.

August when the inland is a little dry and tired is the best month for the seaside ; and when elders go there it is an old and well-justified jest against them that they absorb the children's games, build castles in sand, and devise elaborate water works. The excuse is that seaside experiences make indelible dents in the memory, and when we go back to the shore things that we touch and see matter more to us, as if we were children, than thoughts and ideas. Sand and small shingle trickle pleasantly through the fingers. The shiny shells with rainbow tints or spiral patterns or pearly sheen—the "necklace" or "shining Dolphins" or pyramidal "top shells"—must be handled and examined. It is difficult in a clear rocky pool not to dabble the fingers and tease the tentacles of the red anemones. When

The seething wave
Sucks back the secrets it had meant to tell
But found no way,

we are not so much at pains to penetrate its secrets as to watch the casts of the marine worms and the ribs of sand that resemble frozen ripples, and sometimes behave as ripples when wind and wavelets suit. Watching interminably, but with no boredom, the flight of the gulls—swallow-like black-heads or great grey herrings—we feel like the blind man who regained his sight. "Why don't people make more fuss about it?" he asked.

If we come to review our seaside experiences, most of us will find that each several place is associated with

what the old books called some "common object" of the seashore. For example, at Woolacombe, in North Devon, are two narrow inlets in a great bay, where the shore is composed not of sand, not of pebbles, but wholly, so it seems, of the dust of shells, ground and powdered by sea and rock. The cowries, discoverable there in quantity, have probably travelled about 3,000 miles; and are the only unbroken shells, not excepting the limpets! On the Belgian coast the shore is converted into concrete by the shells. Here they lie loose and crumbly. A whole shell would be a marvel; but those who look close will find that one sort has completely survived, and it is a shell to which man has given value from early times. Cowries—of the genus "European"—are legion—pink, dainty, delicate, they have been driven unscathed, sometimes probably from great distances. At first you may see none; then, when your eye becomes trained, you will find them in quantity, and their collection becomes almost a mania with some who ought to know better, that is, if more dignified pursuits are held to be better. Their ways are a mystery, and though empty of the molluscs whose queer bodies once almost covered them, and so left to the tender mercies of the currents, it is hard to account for their almost exclusive preference for an else unremarkable crevice in the coast line. Can anyone explain? If not, what right has the conchologist to his Greek syllables?

What Odysseys some of these common objects of the shore must have completed! Now and again, in the bays of Milford Harbour—one of the greatest and least used harbours in the world, always excepting the north-west corner of Australia—you will come upon the outer shells of sea urchins, with spikes all worn smooth, and sometimes even the skeleton of the inmates scooped out.

From the look of the shells you might almost conjecture that they came, say, from Majorca, where many of the clear, deep pools that edge the sea round that delectable island are so floored with urchins that it is dangerous even to paddle. But they are of a different sort. Perhaps some day our biologists will mark "common objects" such as these, as they ring nestling birds, in order to discover their migrations. The way of a shell in the sea, that, too, is a marvel worthy of our Solomons.

Stocks and stones also migrate. The air-bubbles on the yellow-brown bladder-wrack, the commonest of the seaweeds, have a number of purposes. The first, doubtless, is to amuse holiday children, who can seldom resist popping them with finger and thumb. But inferior ends are also served. They help to float the weed to the surface and very often pull stones away and convey them considerable distances. Shingle is a fascinating subject full of curiosities. On a bank is often written the incidence of wave and current, as on the marvellous Chesil Beach. Apart from the neat grading of the stones, big at the top of the bank, small at the bottom, there are eloquent scoops and cusps and ridges that character sea-movements as a rock the scraping of a glacier. There are round stones like river stones that were rolled into place, but more flat-sided ones that were sledged into place.

How smooth and hard are most of these shingle banks, except where you can find the gripping root of the bladder-wrack. Nevertheless, plants of varying habits have conquered them. The great horned poppies, with their yellow flowers and scimitar-like seed-heads, drive roots below the Aldborough shingle as successfully as deep-sea hollies penetrate the barren sands of Rye or the murrain and lime-grass the dunes of Ireland, South Wales, or Devon, however fiercely sifted and shifted by the

wild west winds. But delicate and lightly-rooted plants also can make a living off the stones ; and among them the most charming and surprising is, perhaps, the little sea purslane. Indeed, barren sand and barren pebble in association appear to give some hardy plants their optimum. There are rarities, as we have seen, on the strange spit of shore between the river and sea at Blakeney, though what dwells on the eye and memory is the frequent patch of stonecrop as yellow as massed bird's-foot trefoil in a meadow. As for the spacious dunes of Saunton, in North Devon, they are generally regarded as a botanist's Paradise, though, again, what lives strongest in the memory is the carpet of the little common pink cranesbill, or the Viper's Bugloss, which also colonises luxuriously the stony land that was once sea-bottom between Rye and the sea.

They miss much who are too faithful to a single strand. Our eastern, western, and southern shores all differ as much as if they were rival countries, not only in contour and material, in cliff, rock, shingle, sand, and mud, but in "common objects," in birds, fish, shells, and flowers. The memory of a beach on the south-west of Scotland largely consists of scallop shells, irresistibly decorative as perfect models of strength and lightness combined as the bones of a swallow. When we begin to inquire how these nicely fitting ribs and grooves subserve both ideal beauty and the needs of the animal, we would all become students of shells, though the tribe is, perhaps, one of the smallest among open-air naturalists.

5.

The porch of the English cottage (most English in all its aspects) is held up by two stout posts of spruce left

with the bark on ; but the stoutness of its bark begins to suffer from the antiquity that gives the cottage some of its charm. When wood decays and bark loosens many creatures rejoice. There are no homes more snug than those roofed with bark and set in softening wood. I should not like to suggest a figure for the number of insects—spiders and their like down to funguses—that found lodgment in the congenial lodgment at this cottage door. No census was taken ; and attention was centred on one resident to the exclusion of all others.

Alongside one of the posts is a bed about a yard square into which every possible flower has been crowded, including a fuchsia. The leaves of this were being cut to ribbons, and you might watch the process. A bee, extremely like the honey bees, that were filling the sections in a hive at the back of the cottage, clipped out circles and ellipses with a precision and at a pace you could scarcely believe. She might have been using scissors. One knows how powerful are the jaws of insects. The goat hawk moth can burrow into the stoutest oak ; the queen wasp chumbles the wooden fence—is chumbling the wooden fence—outside the cottage. The cabbage butterfly caterpillars spoil and foul a big leaf with horrible thoroughness ; but such feats hardly prepared you for the tailor-like surety of touch and quick progress of this leaf-cutting bee. The scissors of the mouth cut out the disc while you looked. It was rolled up as rapidly as an Australian shearer disposes of a fleece, tucked up under the legs and carried off. The fuchsia (which I have never before known to be chosen or heard of being chosen) was selected on the principle that “great is juxtaposition.” It was a yard or so distant from the spruce post with the loose bark.

An accidental blow to the post had knocked off a piece of the loose covering and revealed the whole wonder of the most perfect nest that it has ever been my fortune to see. The bee had eaten out three parallel corridors in the wood and the bark, and when discovered was completing the furnishing of the last of them. One of the tubes had fallen to the ground, and could be examined without further harm to the bee. About two and a half inches were intact. What a marvellous work of art! More marvellous to my thinking than the honey bee's more strictly geometric cell for its variations and adaptations to circumstance. The sides of the tube were constructed of fuchsia and laburnum leaves cut into rough ellipses, folded over into a circle and (as it seemed to me, though the books are silent) slightly glued together. There were seven layers of leaf. You could handle the fallen tube with bold touch, and not fear to crush it or disturb its arrangement. The leaves had dried hard, without losing their greenness. The tube was divided into three or four compartments, each separated from the rest by a division of cemented and fitted leaves, each as nearly as may be circular. The under side of each division was concave, making a dome over the green egg chamber.

All was done according to rule. Along with the egg was a store of pollen bread for the coming grub to eat. All was foreseen. Yet with bees, as with mice, the best-laid plans "gang aft agley." There was a more thorough, and more furtive disaster than this breaking off of the bark. As I watched the bee at work I saw her accompanied by a sham, almost diaphanous, bee-like fly, an unholy, ghost-like creature, a native parasite; and parasites must live though *nous ne voyons pas la nécessité*. The evil work of its breed had been done. Out of

one cell that should have been well "ribbed and palèd in" led a rough round hole. The grub of the robber had been duly hatched, had devoured egg and pollen and cut his way to freedom through the seven ply of the walls. Let us hope that only this one cell of some sixteen or so had been victimised.

The leaf-cutter is common. In this cottage garden there is one other discovered nest (and probably several more). The second is in the narrow overflow of a small tank; and it is unlikely that the fate of the bee will be the fate of the sparrow who built up a spout. In another bigger place the local carpenter found, during his operations, two keyholes completely blocked with leaf-made cells. This was perhaps a different species, for there are keyhole bees and snail-shell bees and bramble-twig bees, and many others. In most gardens round about you will find bushes cut into these circles and ellipses; and the choice of plants is wider than the older naturalists, who nicknamed the bee "rose-cutter," generally allowed. It is a question whether laburnum or rose is the favourite leaf, so far as my experience goes; and this bee—more like an ant than a bee in its quick adaptability—will take a variety of handy leaves, if they are tolerably thin and tough.

This bee is common; but it is far exceeded in all our southern counties by a bee that lays very few eggs and tunnels a more laborious home. Some years, of which this is one, dusty and sandy spots, or, indeed, any open bit of ground, a garden gravel path or a bare patch on the common, is one day decorated with little heaps that suggest the emergence of a multitude of worms. They are made by a single bee, bred and fed as the grubs of the leaf-cutter are fed; but for freedom the birthling must tunnel upwards through many inches of soil before

it finds the sun. *Andrena rufa*, the commonest of these, outnumbers the *Megachile centuricularis* by fifty to one. Both give the gardener a welcome sense of "unearned increment."

6.

Every garden should have a beehive as according to Ruskin every household a cat, if only because of the pleasure of celebrating their feasts. The apple, the lime, and the heather give the bees their three great harvests. The "honey flow" is as definite as a high tide; but in some years there are no neap tides and the white clover which has a long life is very potent to keep the honey flowing. Countrymen in the Midlands remember 1929 for the continuity of its honey.

Bees, like sundials, only count sunny hours. Their stores and, less certainly, their families give a tally of the hours of sunshine. The greater the warmth the more the honey and the stronger the swarm. This season they justified Dr. Watts more consistently than most of us can remember. It is a great honey year. The honey flow has not been one short concentrated harvest, as of the wheat now beginning to fall, but a harvest like the orange harvest, which continues unabated month after month. The hives have grown like towers to make room, and yet more room, first for frames and then for sections. Proud bee-keepers bid against one another, boasting of the 50 lb., of the 100 lb., they have already taken from a single hive. And so strong are some of the swarms that the jostling at the doorway would make any other animal petulant and bad tempered. But the bees store up all their wrath and fury for the days, soon to come, when they will fall upon the drones, drag them from the

hive, and nibble the base of their wings till flight is a danger.

England has been like the prophecy of Palestine : it has flowed with milk and honey ; but some bee-keepers will tell you that the honey is not all it should be. It is plentiful, but scarcely dilute enough to be pleasant to handle. The want of superfluous moisture in the world at large has affected even the honey in the flowers. It is thick and rich and unusually sticky. Weather can be too dry for honey as it can be too dry for pollen. Flowers do not set readily into fruit if the sun is so constant that the pollen dries rapidly. What the fruit-grower asks in blossom-time is warmth plus moisture. Much sun or much rain may do almost as great damage as much frost, at any rate to those that are more or less "self-sterile." Honey does not suffer quite so serious a check, but it was less fluid, less manageable in '29, as it was in '21, for the absence of rain and mist.

But it was plenty, as they used to say, and sweet. Not all honey is sweetly-scented. Now and again in a cantankerous year or place the bees will rifle the charloch exclusively ; and that unlovely herb, the wheat-farmer's most constant curse, is a bitter-sweet when converted to honey. Some nice noses find a resemblance in charloch honey to decaying flesh. I must confess that, personally, I never smelt a honey, even when compounded from farm weeds, that seemed to me in any degree unpleasant. Yet honeys differ as widely as different wines, more widely than different vintages of the same wine. They differ in bouquet, in taste, in consistency, and, not least, in colour.

One summer in my memory was so dry and barren at its latter end, when July yielded to August, that few flowers were available to the bees, eager to complete a

winter's store, except the blackberry which blossomed, as always, abundantly. It is perhaps less easily affected by weather than any plant. Everything about it is lusty and individual: its growth, which is rapid, its leaves, which are on the way to be evergreen, and its flowers, which are many and rarely barren. The peculiarly individual flavour of the berries is latent in the honey glands;

“As harboured in the vine
Hang the gold skins of undelirious wine.”

And not only flavour: colour too. The bees that were driven to an exclusive theft of blackberry honey produced a combful that was of the colour of a blackberry pudding. Between blackberry honey and heather or lime honey is all the difference between, say, Oporto and Graves. One is dark with a certain redness, the other is light and yellow. This year's honey, if I may generalise from a small number of instances in one neighbourhood, is sweet and savoury and highly tinted, but of a consistency that sellers of rubber solution used to call “tacky.” It is rich honey.

The same year is and was generous of all flowers, some good for bees, some not. The fields are flagrantly red with poppies, as earlier the open places were blue with speedwells. Did anyone ever see grass fields whiter with milfoil? The discs of the elder light up the hedgerows on the darkest night. The commons have a crop of bed-straw that throws its honey-like scent as far as a gun its shot. We know from the bees that the honey is more neat than usual; and we may perhaps presume that similarly a richer fluid is flowing up the trunks and stems of fruit-trees and bushes. The thinner juices make the leaf-buds, the thicker, so the students begin to discover,

produce flower buds ; and we may nurse a reasonable hope that our sunny days have laid up a great store of fruit for the summer and autumn of far away 1930, as the bees have stored honey against the winter.

7.

The most precious rose in my garden has no more popular name than *Rosa Moschata Floribunda*, a briar from the East and a true species. It grows more lustily than any rose within my knowledge, and is superlatively sweet in scent. One is almost inclined to think that there is some correlation between vigour of growth and sweetness of flower ; for near by it is a rambler from Germany—*blau veilchen*—which is, if anything, yet more sweetly scented ; and last year, when its growth was measured carefully day after day, it kept up a good steady average of two inches in every twenty-four hours. Such palpable energy of growth is in itself a pleasure-giving quality to the gardener. These two roses have been “*floribund*” beyond the normal. From sheer gratitude to the makers of our ramblers and climbers, which have for the most part been produced within our generation, I should like to level a lance on their behalf.

Some of the critics have been condemning the public for their fondness towards the ramblers, though others, and of yet shorter life, have been praised. Even the very best are condemned, for example *Excelsa* and *Hiawatha*, which we may put at the very top ; and *a fortiori* against *Dorothy Perkins*, the American pillar, or *Paul’s carmine pillar*. It is true (though it was not said) that *Dorothy* flaunts a sort of Bank Holiday pink that is not, perhaps, in the best of taste ; and the American pillar carries trusses that wither into unlovely misery.

The finery of yesterday looks crumpled and tawdry on the morrow. But the popular rambler is the pillar of many a garden, nevertheless. It provides an almost architectural feature in any garden where there is room for a good path. More than this, the flowering period is a good deal longer than the critics allow, and their continued life is one of the reasons of the extreme popularity of Dorothy, which is the best "doer," of Hiawatha, which is the neatest, and of Excelsa, which provides the best mass of colour. Your rose pergola may be a gorgeous spectacle throughout July and August; and quite save the situation, if too much reliance has been placed on the herbaceous plants whose flaming days are in June.

It is, of course, the special joy of many bedding roses that they are perpetual, if one must use a word in its wrong sense. They have two flowering periods, as birds nest twice, and they may flower at any time. Gardeners in the south have boasted of picking a rose in every month of the year. An odd bloom or two appears in winter and through the spring, till the sweet and early Banksia covers the house wall with real blossom. Very often the second blooms are the more perfect. No rambler can yet compete with beds where Ophelia and Betty Uprichard and Etoile de Hollande and Shot Silk are opening their August buds. Some day, probably not very distant day, the perpetual rose will also ramble and climb. Indeed, some do, in a measure; but those who desire a great pillar that is green and splendid in most months, and gorgeous in two, have what they desire in the popular ramblers, using the word in no technical sense. No real alternative yet exists, though it very soon will. Not even Grüss an Teplitz or the first Tea Climber, Gloire de Dijon, quite fills the part.

Nevertheless, the finest qualities of these popular favourites are seldom seen because they are not often allowed to grow where they flourish most. On a neighbouring stream some attempt was made to adorn the banks with spiraeas and appropriate wild flowers, loosestrife, red and yellow; the small St. John's wort, monkey flower, and willow herb. Nor has the attempt proved altogether a failure; but the cynosure of neighbouring eyes is a part of the bank planted with ramblers for defensive purposes. They were put there more for their thorns than for their flowers. But the water-side suits them. They make a fence of red and pink that is repeated in the water. You can scarcely tell the reflection from the actual blooms that touch the river surface. The water increases the length of their flowering time and the vigour of their growth. They have layered themselves as freely as a wild blackberry, especially the Hiawatha. There are half-a-dozen Excelsas and Dorothies where one grew before. They smother most weeds, though the big willow herb, known as codlins and cream, and the common dock, quite defy them.

Quite literally these ramblers may make the desert blossom like the rose; but for certain very wide and barren spots, *Rosa moschata* (which can scarcely be found in the catalogues) surpasses them. Its exuberance is beyond calculation. It grows bravely enough in mere gravel. One bush, now concealing a gravelly scrape in Hertfordshire, is a cutting from a bush that covered an arch of immense diameter in the soaked "slipper" clay of the Isle of Wight. The wonder is that such powerful plants have not strayed from the gardens into the hedgerows, like the greater celandine or the dusky geranium or the exported sweet briar, now one of the worst weeds in Tasmania. The reason, doubtless, is


that its readiness to grow from cutting or layer is only equalled by the reluctance to grow from seed. On this subject our gratitude to the producers of new roses, continually increasing their charms, becomes yet greater when we realise the intense difficulty of germinating the seeds and the length of delay before the bloom announces its quality and the plant its degree of hardihood.



SEPTEMBER

September Stubbles—Two-and-Twenty Swallows—Secrets of Attraction—A September Fen—Invincible Harvest—Prophetic Insects—Successive Sanctuaries—A Hymenopterous Giant—A Forlorn Hope

I.

T no place and time is the individual beauty of England more tangible than on September stubbles paled in between September hedgerows. I like to use stubbles in a wide sense to cover any field where harvest is past—a cut lucerne field, or even a waste or a fallow. No type of weather is quite so constant, and therefore quite so affectionately familiar, as the misty heat of early September. It certainly seems to our random and unscientific memories to outdo in regularity as in character any of “those Buchan spells,” which have attained a new vogue in the last few years. Especially does this bout of warmth and sun conquering morning mist give to the September walk over fields a precision of mood denied to other seasons or other modes of motion. And such mood adds emphasis to the feeling of some of us that the close season might well be continued till September is a fortnight old. The shot “squeakers” is a painful sight and the coveys are too easy victims.

The first field of a particular cross-country walk is covered with lucerne. It was first cut in June, and the reaper (that jagged and venomous knife, five feet in length—drawn by a clumsy three-wheeled tractor that

rolled and wobbled and rattled in a sort of clumsy efficiency) possessed all the qualities that we are fond of labelling as Juggernaut. Every nest, and there were many, was wrecked yet more completely than the "wee bit heap o' leaves and stibble" under Burns's plough. For the young birds—many larks and, as it happened, yet more partridges—were already born, but helpless, though many could already run and flutter. It was a sad experience, walking over the field after the passage of the knife. Even one old bird, too faithful to her brood, after the fashion of partridges, had been beheaded. Since then the lucerne has grown tall and thick again. The second forest contains no partridge nests; but every chain or so you come upon another sort of nest. The rabbits cut off a dozen or so stems, as neatly as if with a knife, and use them for a mattress. These primitive beds in standing lucerne or sainfoin have little likeness to the snug "forms" made and much used by hares and rabbits in rough grass. A field or two farther on is a place of many acres left fallow for two years. It is clothed with innumerable weeds, some very lovely. Near the hedge is a patch of pale blue succory, well worth a place in the most ornate garden. Both the big white and the lesser pink and white convolvulus are flowering at the top of the longest stems they can find. More barren patches are more humbly adorned by a tangle of heartsease and scarlet pimpernel and poppy, with some belated speedwell and tall clumps of the poisonous ragwort, that yields so pleasant a dye. One very gay and curious clump is composed of scabious (a flower that has come into fashion for public gardens), of the bigger knapweed and of ragwort. But the real proprietors of the field are tall grasses; and among these, where the lying is warm and snug, a rare number of hares

and rabbits and pheasants lie. On this hot day they show an amazing confidence in their power of concealment; but you can distinguish the "forms" of the mammals almost as you can distinguish the advertised and decorated nests of the bower birds. The canopy has a peculiar look, due to the bareness of the hollow beneath it. A countryman with a trained eye and quick hand can (as I saw illustrated half a dozen times during a few hours) catch rabbit after rabbit, and now and again a hare, as they lie there, you might think, half-asleep.

He could probably catch pheasants too, though this is not done or attempted. The younger birds, as they fly off slowly, but in desperate alarm, as their evacuations prove, have a ludicrous likeness to duck, for the wings look to be in the wrong place owing to the absence of tail. Now and again, though rarely, this furtive tameness, always emphasised on hot days of autumn, will possess also the partridges. Some families are very small in size, thanks, doubtless, to the Juggernaut in the lucerne, which drove the parents to a belated nesting. But they are many and merry, if tiny. As a big covey flies low over a level stubble, with the sun reflected from their backs, they look on this shiny surface almost like a shoal of fish; and seem to slide forward by some easier, smoother method than the powerful wing stroke that this heavy bird requires. This smooth, shining progress of a compact covey is in its degree as distinctive a feature of September stubbles as the sheen of gossamer that will clothe the stubbles in "samite, mystic, wonderful" one still and misty morning of the autumn we have entered. In a year such as this, when families of fourteen or even sixteen birds are common, the partridges are as much a part of the stubbles as the clover that begins to top the straws. They are perhaps the most interesting

to watch of all our birds, socially : first, the courage and skill of both parents, the cock as good a mother as the hen ; then the continuance of the family cohesion, scarcely paralleled among other birds or mammals ; later the rather mysterious packing of the coveys. How this begins I saw distinctly. A very large covey was flushed, and looked likely to fly a long way, but suddenly pitched 150 yards off. A second but small lot ran forward to about the same place, whence presently a flock of thirty-seven birds flew far and fast like partridges in December. The gregarious instinct that possesses starlings more than any bird conflicts in the partridges with the family instinct which they (in company with grouse and long-tailed tits) alone illustrate. Yet it may be that among the autumn flocks of starlings or of rooks, the old pairs, if not the families, keep touch. Has anyone an explanation why the few maintain the family tradition, some grow unselectively gregarious, and others, including our own blackbirds, form bachelor companies ?

2.

“ If there were dreams to sell,” many of us, “ when the crier rang his bell,” would follow Beddoes and buy a cottage. Such a cottage as he wished lies off the road in Hertfordshire, and although not quite “ lone and still,” still enough to be much beloved by many birds whose ways are watched season after season, and their efforts sometimes aided and abetted by the Happy Cottagers. The memory of this home is carried year after year to Africa and back within the memory of a particular pair of swallows or their progeny. Year after year they are awaited, and year after year they come pat to the appointment, if we may allow a margin of two or

three days on a 3,000-mile flight. They must be conceded the qualifications "D.V. and W.P.," but, whatever the weather, *Deus vult*, and the swallows begin building before April is out, and usually in the very same spot. Most often they refit the last year's nest, though it carried a succession of broods and suffered much in all respects.

This year the record has been of quite peculiar interest, and one of the more baffling queries in the life of migrant birds was to be illustrated in coming weeks, for the eggs of the fourth successive brood were not hatched until Sept. 10. That any pair of birds should produce three broods within a season is a marvel. That a migrant bird, which comes when spring is well on the way, and must feed the last youngsters till they are strong enough to fly 3,000 miles, should have the courage and determination to breed four, is a miracle that no books recognise. The compilers seem to have thought that they could not so far strain the credulity of their readers by confessing to more than three. Nevertheless and notwithstanding, this is not the first time four broods have been attempted. Two years ago four broods were successfully reared in the same place, perhaps by the same pair. Their career, and, if one may say so, their mentality are worth attention and deserve a record.

The swallows are expected each year on Primrose Day, April 19. The cottager always spring-cleans the nest a few days before they are expected. This year she went to prepare on April 16, but found, to her distress, that a jenny-wren had occupied and adapted the nest. In affection for the swallows and for the sake of abstract justice, she hardened her heart against the interloper, and turned out the dome of leaf and moss. By April 19 the wren had restored the nest again; and again was

evicted. Even this did not quell the little bird's persistence; she built a third time, and as there was still no sign of the swallows, she was not only allowed to remain, but help was extended in the rearrangement of the material. It was better to have some bird than none in the nest; but complications arose. On April 29 the belated swallows arrived, and gave every sign of mental disturbance when they visited the old home and found it occupied, for the wren had now finished her nest and laid several eggs. As a compromise the cottager, by way of suggestion, made up some mud pies in the other corner of the loose box; but the swallows would have none of it; and after a week of petulant anger they themselves threw some of the wren's eggs on the floor and drove out the mother.

This left the landlord, as the cottager calls herself, no alternative. She climbed the steps, went through the spring cleaning once more (in spite of pity for the wren) and by way of making a proper job of it, took up some soft mud and repaired the side of the nest "to save time." The swallows came to watch her, and even perched near by during the reparations. As soon as ever they were finished, the hen took possession of the nest and laid eggs. The time thus saved in nest-building (and in a dry spring it may be quite a long process) just enabled them to equal their previous performance. Three broods were raised in the quickest possible succession by Aug. 22. A fourth clutch of five eggs was completed on or about September 4. These were successfully hatched and four families of young safely launched in spite of the abnormally late arrival. The fourth clutch was completed as near as may be in three months, for the pair did not go into residence till May 6. Very careful note was taken of the dates and other facts till the moment when

the summer story was completed ; and the score or so of swallows born in the old nest took their mysterious way over the Channel and along the coast of Portugal to some winter home far south in the West of Africa.

Is it at all probable that this fourth brood, though thus safely hatched, will be strong enough to fly the 3,000 miles before the end of autumn ? Swallows, I think, grow their feathers more quickly than most birds, perhaps than any bird. Above any animal, perhaps, of any kingdom, the tribe is quick and vivid ; is of the air airy. In the tissue of their bones are sacs for holding the air to which they belong, for buoying them in its friendly substance, for keeping them definitely, and in some more mystic way than we know, "in touch" with the movements of the moisture, the temperature, and the pressures of the air. Maybe, also, some directional instinct is literally "felt in the bones." In movement and in so-called mind the swallows are quick and vivid, but the full power of the race can hardly come into possession of these September-born young until October is in mid-course. Well, it is a lovely month ; and those who watched this philoprogenitive pair through a summer that did not deserve the name, nursed a special hope, fulfilled later, that October might make good on the birds' behalf the worst defects of July.

3.

Almost every animal—mammal, bird, or insect—has a favourite plant. I do not mean a host plant. It is told in all the text-books how the insects only feed on certain plants. If the wild carrot or water dock vanishes, so particular their taste, our two finest butterflies vanish, too. Or, again, the fewer the nettles the fewer also the

gorgeous Peacocks and Admirals. Such fond associations have been very thoroughly examined, though there are still discoveries to be made. But, more aesthetic, less essential tastes are in my mind. Of these the best known—at least, to gardeners—is the intense attraction of *Buddleia* and *Sedum spectabile* for Peacock, Red Admiral, and Tortoiseshell butterflies. In one garden that I know, a great patch of *Sedum* of two varieties—one with pink, the other with red, plates of flowers—is blooming within about ten yards of a *Buddleia magnifica*. A host of Peacocks and Admirals wavered between the two attractions, but on the whole the *Buddleia* had it. The pure honey scent of those long violet spikes was too compelling even for the greatest rival.

It is perhaps a little surprising that the Admirals should so delight in this purest of scents, since, in spite of their beauty, they have much of the nature of the scavenger. They are drawn to what is foul and rotten, as soon as ever the purple spikes turn to rust; and you must seek the glorious wings under apple trees, where the windfalls are turning to a brown liquid. This taste in so ethereal a creature is as surprising as the discovery that the lovely colours of the wings are manufactured of the waste products of the body. “The creation of colour is their method of avoiding gout,” an entomologist once argued!

It is often said that partridges flourish most on the best arable farms; but we may be more precise. It is not wheat, much less oats, that partridges love. They have a passion for barley; and this is shared in some degree by both geese and duck. Pheasants enjoy any stubble; but almost their favourite food is the insects’ discs that are at first attached to the oak-leaf. At certain seasons you may be as sure of finding pheasants under the oaks (and it is not only the acorns they seek) as of seeing

fieldfares thick on the may bushes after the first snow-fall, or missel thrushes devouring yew berries. The goldfinch is said to be peculiarly fond of thistle seeds ; and he is. I know one waste bit of ground at this moment, where any day you may catch sight of the red and gold of that lovely finch. The chief attraction is the thistle. Nevertheless, the birds are fonder, I think, of cornflower seeds. They will collect to the very walls of the house in their search for it ; and this pretty if untidy annual is worth growing for their sake.

A peculiarly exclusive taste in a common, though little known, insect is expressed on the leaves of some roses in my garden. The leaf-cutting bee (who makes her nest and storehouse out of circular pieces of leaf fitted together) has a great preference for *Rosa moschata floribunda*. She prefers that irrepressible to any other plant, except one unnamed climber ; and never touches a bedding rose. Failing this, she likes the leaves of a young laburnum, but does not touch the older trees. These particular tastes for particular bushes are much greater help in seeking for the animal than, for example, the mere general knowledge that the privet caterpillar enjoys the privet leaf.

One would conjecture *a priori* that the poppies, with their strong narcotic qualities, would be avoided, but many varieties are a great attraction to the least pleasant inhabitants of the garden. There is a rare meconopsis which seems to beckon to the largest slugs in the garden. I have a bed of Shirley poppies, now nearly over, in which every single ripe or nearly ripe seed-head is eaten out, both seeds and even the divisions between the layers of seed. You cannot find one intact. The poppy, indeed, is a general favourite with insects. Bumble bees wallow among the stamens of the big poppies till they are

drugged, and the big heads are regarded by earwigs as the ideal dormitory and dining-room, both. But perhaps the earwigs prefer dahlias. Wood-lice cannot be called fastidious feeders, but their preference is for young violas.

Our domestic animals have unexpected tastes. A spaniel is quite happy if he is allowed to pick off and eat the smaller burrs that stick to his master's clothing; and most dogs prefer goose-grass to any other green food, even than twitch-grass. Horses would rather eat the young shoots of a quick hedge than the sweetest grass. It is to them what that subterranean fungus, the truffle, is to the pig. I do not fancy it is wholly true that the donkey prefers thistles to more specious food; but I know that ponies will pick out the nettles as tit-bits from hay, however sweet the rest, and goats are as happy with green nettles. In the field cocksfoot grass is preferred, as far as my observation goes, before any other grass or weed, by horses and cows.

It may be, if this study of taste were more thoroughly followed up, we could attract what mammals, birds, or insects we liked: squirrels and voles, nightingales and goldfinches, admirals and painted ladies and holly blues. One estate owner in Ireland claimed that he could attract woodcock by the score, but his secret, if there was one, remained esoteric. The keeper of a sanctuary near London had peculiar success in collecting nightjars. The great secret in all cases is the old one: feed the beast; but you must know very exactly just what food the beast much prefers.

4.

If you desire to see just what a bit of England looked like in primeval times, Wicken Fen, now owned and regulated by the National Trust, is the place to visit. Eliminate the central "drove" (with its queer charred

cork-tipped posts) and a rough path or two, and you have a perfect picture of a fen that has never suffered cultivation. You may choose your descriptive term. Shall it be beauty or desolation? for the Fens are an acquired taste. On their behalf you might change sand into sedge in the Shelley fragment,

—Boundless and bare,
The lone and level sands stretch far away.

For sedge and reed grow as close and thick as grass on a lawn, and the strangely even height is broken only by a tuft or two of scrub and bush. At this date deep silence invests the place. "No birds sing," though the sedge is unwithered; and if you force a passage into its midst you see no more than you would in a tropical jungle. It is, indeed, too thick, too desolate even for the birds: the bittern does not care to nest in it; and you may watch half a day before you catch sight of a lone harrier patrolling the plain.

The desolation—if that is the word—grows. Once the monks, great husbandmen as well as fishermen, were busy banking up the rivers. Long since their days, indeed, within present memory, the surrounding lowland was rich with crops of corn. Now it is galloping back towards the primeval state, though it will never become quite like Wicken itself: the iron of the plough has entered too deeply into its soul for that. The birds prefer these less stark and aboriginal spaces. They like openness; and though they become as furtive as you please about nesting time, even then, even so, they prefer light and room to gloom and density. The super-eminent success of Hickling Broad as a bird sanctuary is due in large measure to the wise cutting of the sedge and the half-artificial, half-natural alternation of cleared

and covered acres. A chance fire that burnt out some thirty to forty acres of Wicken, though much deplored was, perhaps, the best thing that could happen. A forest of scrub, a forest of sedge is good for neither man nor beast, although entirely worth preservation as a historic relic, and, indeed, for its own wild sake : the call of the desert grows stronger as civilisation advances, even for those who are not to the manner born.

I have heard the snipe drumming over Wicken Fen with rare hilarity, and the boom of the bittern has been recorded on its confines ; but the fame of the sanctuary depends not on its birds, but on lesser wings. It is cut and bounded by fenny rivers, and is soaked with water, that nourishes certain rare plants, which in turn nourish certain insects. Earlier visitors to Wicken this year have watched the powerful, almost swallow-like flight of the great swallow-tail butterflies ; and, more than this, have seen companies of the burnished coppers that were once extinct. These later broods are aliens in descent, but not in general appearance, or in habit. They are permanently established, we may hope, and become naturalised. Our common and lustier (and not less lovely) butterflies, such as red admiral and peacock, have a more catholic taste for commoner plants, and therefore flourish widely ; but these two splendid rarities must have their true nectar distilled from their own plants—from milk parsley, and the great water dock—or perish. At this date you may find the docks, plentifully spaced along the little pathways, though not the coppers ; but there is compensation even for the entomologist, and at this date. The place is a paradise for dragon-flies.

If any live creature is of the air, airy and diaphanous, it is the lesser tribe of dragon-fly, the *agrionidae*. They appear and disappear from sight over the river water as

if they possessed the curious trick, practised by steam from an engine, of scurrying into invisibility on contact with the air. The wings are so clear and move so rapidly that they may be quite invisible, while the straight pencil of blue darts this way and that. In flight this piece of blue movement catches the eye. When they are at rest you might stare at a host and not see one till the law of observation that you can easily see and hear what you expect to see and hear began to apply here; after a while, when you have marked one or two, you notice that stem after stem is ornamented with those thin blue bodies, each perched at exactly the same angle; as nearly as may be 45 degrees. This family of dragon-fly is more numerous even than the big yellow powerful libellulidae, which patrol each a particular beat of the river like artillery aeroplanes, and challenge the eye with their warning colours and stout bodies.

Such a fen river as bounds Wicken is of a peculiar quality. You may thrust your stick a yard deep into the queer weedy ooze and marsh gas will come bubbling up over a wide surface for an appreciable time till the bank reeks like a factory. The empty shells of water snails float about the surface; and though fish and eels are less "plenty" (as a Crowland chronicler says) than they were, signs of the abundant life of the stream are never absent at any date. Water lilies, white and yellow, are thick as moon daisies in a meadow. The only aliens in the place are the copper butterflies; and most wisely the strictest ban against alien plants has been issued. In the special botanical reserves as over all the surface grow the plants, including the Wicken fern, that have always grown there, since some sudden invasion of the North Sea felled the great trees and reduced the forests to the slavery of a marsh.



A. J. Rooper Roberts

DRAGON FLY

5.

You cannot destroy the glory of the harvest field ; and it is as glorious now as in my early memories when every yard was mown by hand and the gleaners followed when the harvest home was celebrated. Yet the very latest, the harvester-thresher, that I have watched on a very large farm in Norfolk, certainly lost some of the attractions of a Lancashire scene in which I took a hand during the same week. Or was it that a little labour added the salt ?

The one offence of these great machines that cut and thresh and sack through the agency of the same machine, is the contempt of the straw. The confused muddle of hacked and tangled straw over the stubble has a wasteful, almost repellent look.

I prefer to focus memory on the Lancashire scene.

The heavy horses went tramping round the rectangle of wheat, nodding their trusty heads at each stride with the regularity of a swimming moor-hen or a running wag-tail, but with a dignity all their own. The farmer, so to call him, liked nothing in the golden scene so much as this detail, the nodding of his horses' heads. There were three of them abreast, all of different height, but each marked with a white band along the long axis of the sapient head. One was known in the district as "the war baby," got by a yearling out of an antique mare. The shortest of the trio, who took the outside, was over twenty years of age, but bent on the trace as honestly as the other two, and was not unduly wearied by the day's work and the cutting and binding of ten good acres. The wheat was "deep and smooth and even" ; and the ears swayed to the wind, shifting their colour like the surface of a quiet sea answering to successive puffs of air.

When you stood in a little dip on one side of the standing square while the horses progressed down the remoter side, you could see little more than their heads, like the prow of a galleon and the queer vane of the cutter-and-binder with the seated driver behind it, a steersman in a newfangled poop.

The Happy Countryman would maintain in any company that even to-day no scene has greater beauty than a grain field at harvest time ; and " Romance brings in " the cutter-and-binder as surely as " the nine-fifteen." Where horses are used—and in the Lancashire district containing the harvest scene in question they are conquering the victorious tractor—the harvest has as great scenic charm as when labourers in echelon with shields on their scythes, mowed themselves into the likeness of wiry machines and a motley group bound the sheaves with straw ropes made on the field. Of that old attractive art a reminder was given, for the binder failed here and there ; and in the mode of an older generation the loose booty was bound up by a double length of straw twisted together into a knot, as a countrywoman twists up her hair. Both horses and machine have the clumsy neatness, if one may say so, of much rural work. The animals back and turn and cross-step with a sort of slow awkwardness that is yet singularly efficient ; and at each corner regain exact position with little help from the grunted noises and shaken rein of the driver. The machine groans and rattles and jerks—it is not of the newest pattern—but how precise is its work ! The grain falls backward as the unseen cutter severs the base, is slapped into place by the aerial wheel, carried out of sight by the right-angled delivery of the canvas, and finally jerked out petulantly by the rusty comb, as if it were a bundle of rubbish, or a jet of bilge from the side

of a ship. Yet how neat and complete the result. The side of the uncut wheat is level as a wall, the sheaves, all of a size and shape, lie evenly spaced. The men who pile them in stooks ranged in circles and transepts, till the field becomes a great cathedral, have the lines already laid down, as in an architect's plan. There is art even in stooking. The sheaves are carried under the arm with the minimum of lifting and allowed to fall into their due posture by the mere weight of their heavy base, allowed to slip to the ground. There is no trimming or adapting, and finally you may look through the triangular space under the six sheaves as through a line of Gothic arches.

These sheaves are curiously weighted at the base, and perhaps make the work of stooking rather easier than usual. If you look at them as they lie you might take them from one angle for bundles of very green grass. So provocative of growth has the season proved that the clover and a number of weeds, especially persicory, have grown out of due season, and the first foot or more of the sheaf seems to be wholly put together of hay. It is green, not yellow. But, once in stook, you mark only the big and level gold-brown ears, promising a fruitful yield. The "joy in harvest" is not departed, nor has it lost its "deep power." It is true enough that this great golden crop is valueless in one regard. The labour of the men and the horses and the machine exceeds in worth the price of the grain and the straw. The stout ears will not be ground into flour for the food of man, and no labourer can have quite such zest in harvest to-day as when the difference between good and bad wheat meant the difference between plenty and half-starvation in the winter. Most of the wheat will be eaten by pigs and poultry: "It is the cheapest food," said the farmer. But this difference in the value and in the destination of

the grain has not, so far as one could see on this happy farm, robbed the scene of any of its gusto ; certainly not of any of its beauty. The men rejoice without qualification in the excellence of the crop and in the rare, they almost believed the unprecedented, speed of its gathering. Harvest is still harvest.

When the hay is cut, the reaper is generally followed by wagtails, fly-catchers, and other small birds, who dance and pirouette in the air as they chase the very visible flies and small moths. The cornfield is appropriated by the swallows. They skim the back of the horses, and almost touch the standing ears. The smaller the central patch becomes, the more condensed is the flock of swallows and martins, who fly with unusual deliberation among the swarms of flies, gnats, and midges disturbed by the machines. They do not disappear till the island of corn almost reaches the vanishing point, and rats and rabbits at the very last face the waiting gun. They are often so scared that they lose their proper pace, but not seldom find safety through the mere waywardness of their course among the "alien stooks" and sheaves. No mice are seen. Their dangerous hours will come when the moon is up. Do ever brown owls and barndoor owls shout and hoot quite so vociferously as when summer yields to autumn, and open stubble takes the place of sheltering corn?

6.

When the milkman pushed his narrow way past the gorse lining our path on either side and even overflowing it, he found a group of spider webs, each strung with dewdrops, and was pleased. "That bodes a fine spell," he said in the perfect English that only the countryman preserves. Some of those to whom this happy



The Times

LOLLINGDON DOWNS IN HARVEST

observer carried the milk had been observing a variety of other creatures, as well they might, for never in the year is there so much to see as on these autumnal days, when reluctant mists rise towards the sun, and the coloured drops of dew cling with such persistence to webs or grass blades that at noon, though the sun is hot, the grass blades are a prismatic film. The air is still and soft and delicately scented, and languorous enough to tempt the world to quiet observation and parting birds to a last song.

Some of us spent a long, lazy portion of the morning looking down at the grass blades, with no particular purpose. But the best increment is often unearned. We might have quoted in our pleasure Rossetti in his grief :

My eyes wide open had the run
Of some ten weeds to look upon,

and they were seen to be surprisingly full of life. Winged ants abounded ; and they all gave witness of the same sort of instinct as the gossamer spider. The young spiders on a morning of gossamer have an irrepressible desire to mount whatever higher object they come upon : tree, railing, post, bush, or blade. So these ants mounted every higher bit of grass. It is true that the highest was not half an inch ; and at the summit they flapped and wriggled their wings, without taking flight. We had been drying lavender in the sun, and stuck some of the relic stems in the soft ground. A winged ant at once climbed to the top and tried any side shoot : but seemed disappointed at its brevity, and after a flourish or turn of the wings, climbed down, and then up again, and then down, finally surrendering the pole as unsuitable. The young spiders who act from a blinder instinct climb and jump on the raft of this spun gossamer, going straight

to their object. The ants, whose instincts, being several, hammer out a sort of reason, were experimenting and waiting.

It is really very difficult to watch ants and not be drawn into moralising, or at least into the discovery of symbols. The wings are for the marriage flight, of which it would be justifiable to write in the ecstatic vein of Maeterlinck on the flight of the queen bee. The wedded queen comes back to the hive, or later sets up a new hive, and thereafter spends the better part of her time in laying eggs. The wedded ant makes a more complete job of her community work. She takes off her wings altogether, lest she should be tempted to vain expeditions of self-indulgence. The ants we watched in the grass were preparing first flights, late though it was in the season ; but the jettison of the wings will not be long delayed. I have seen them come off almost as leaves fall after the first frosts. The ant is obviously vexed by the now useless appendage, a mental result doubtless of some muscular irritation at the base of the wing. She stretches and rubs so successfully that the wings on occasion are cast off as nearly as may be simultaneously :

And she who knew the ecstasy of wings
Toils in the darkness with terrestrial things.

Mere juxtaposition suggests a comparison of ant and bee. Close to the ants, trying their wings from the grass-blades, is a hive where the workers are busy with the grim work of nipping or mouthing the wings of the drones. It is a carnal as well as a grim onslaught. A drone on the alighting board catches the attention of a worker or two, and they open an attack ; but it has little venom in it. After wriggling away from the two who have pecked mildly at his wings, he is allowed to waddle

into the hive or fly off, as if he had merely annoyed the more laborious pair. A second drone prompts a more violent animosity. His enemies multiply, and one clings so tight that the two are still at grips when they fall into the grasses off the smoother battlefield. Almost always at this date the drone escapes for the moment, although it is likely that the wings are so weakened and loosened that they fail him in flight ; and he will collapse or fail of the strength necessary for returning to the hive. It is not till later, when their greedy presence is more generally resented, that we find them killed outright by the angrier workers and their bodies left "by the wall." Winged bees and ants, both, are making autumn preparations for the winter. Their communities are not unlike ; but the ants at all turns show more adaptability, one may say more sense. The workers do not kill themselves of overwork, nor does the king kill himself.

7.

Is there any place where you feel more completely "wrapt from the world," as Charles Lamb used to misquote, than in and about the marshes of the East Coast ? They are not strictly marshes : cultivated fields intrude ; you may see the tops of stooks and the head of cattle over the fringes of reeds ; the wetter, wilder stretches may be lake or ooze, water or mud, and you may never be sure how far the sea, or the rain, or river, is responsible. You are not far from men, and their habitations. Churches of immense size and rare old dignity, and a congregation of houses flank the side of the marsh opposite the steep bank of shingle on the other. The hoot of the motor horn interrupts the ripple of the red-shank and the cry of the gull. The marsh is a mere

purlieu of the village ; and yet it belongs still to the days of Hereward the Wake and the monkish chroniclers of Crowland Abbey ; and there you may still forget the traffic of the common world and the advance of the conventional years.

You may be artist, you may be naturalist. Not seldom you see his wife and her husband fulfilling the functions of the two side by side, reaping together the harvest of the palette and the binocular ; but all who enter those enchanted marshes—even women artists—become in some degree subdued to that they work in. They must confess to interested foregathering with the native life of the place, above all, the marsh-haunting birds, which have been very much at home there since England was an island. An eminent head of an Oxford College, who is also an art critic, once laid it down in a casual discussion that nothing is beautiful in a picture except mud and reeds. Whatever else he forgot, he forgot his supporters in the theory, the creatures that live among the mud and reeds.

At this date the place is exciting as well as peaceful. We sat for a few minutes on the marram grass and sand of the dune that divided the marsh from the shingle. It is all very peaceful and, as it seems, empty of life as of sound. But just as objects in a twilight room that you enter from the light grow into your vision, so here in the open, before you are well aware, the emptiness becomes visibly peopled. Tiny birds rise from shore and tuft, and flit about with a faint chirping ; and presently, for all their aimless and wayward patrols, you grow aware that they are moving with a purpose away from the north. As Thomas Hardy's shepherd on the Downs on a starry night felt himself to be witness of a universal motion in space, here in a smaller world you grow conscious that

you are in the midst of a wide and seasonal career. The world of life is moving south. Those with homes in the marsh departing, those from the north passing through. The gay wheatears being very tame and numerous, and most easy to see, give you, so to say, an intimate taste of the great mystery of migration, of the compulsion of the call of the sun. The little birds are as conscious as Gabriel Oak himself of the swing of the stars.

The wheatears are almost as butterflies flitting about your head ; but you need the borrowed eyes of a glass and more particular looking before you come to perceive how full is the marsh of its bigger and more proper denizens. To every other pond or mere or lake is its heron. Grey and large they stand knee deep in the water like posts or reeds, so very still that you hardly awake to their identity in the presence of livelier wild fowl. On the shiny mud beyond the biggest sheet of water the most restless of all the waders catches our eye. His busy beak progs perpetually at the unpromising ooze, and he turns this way and that like a dancer responding to a jerky tune. His guise proclaimed him for what he is, the busy redshank ; and we saw in imagination the spotted breast and coloured legs and brown head, and once, a little later, we fancied we heard the sweet ripple of his so-called song. It was a while before we noticed at all the patient heron standing stock still in the deeper water in the very line of sight.

At any moment on this coast you may find yourself suddenly in the midst of a populous and patent migration of birds big and small. Stints, dotterel, redshank, green-shank, plover of this and that species, may pass processionally and almost in a pageant. Great flocks of snow bunting may descend almost at your feet. A thousand geese, to give one particular, carefully enumerated

experience, may fly over your head. Nor do birds only migrate. You may be enveloped, as in a snowstorm, by a migratory horde of butterfly. The appearance of some utter rarity may be vouchsafed at any moment ; a reeve, say, or an avocet ; and did not one most fortunate East-Anglian, as he crouched against a bank, see a bevy of spoonbills pass like great swans low over his head ? “ There was nothing in the marsh,” on the morning of which I write, so the marshman and specialiste said, as if sheldrake and heron and redshank and turnstone and migrant warblers were nothing ; and out of their own mouths they were convicted, for they confessed to one black tern which dipped past us before we left. What a country ! Brancaster, Scolt Head, Blakeney, Cley, Salthouse—this succession of saltings, marsh, dune and shingle, that becomes a new landscape with every turn of the tide and shift of atmosphere, remains untameable.

All a wonder and a wild desire.

At least to every naturalist, old or young, who has the freedom of the pale.

8.

Some boy scouts from their little encampment by the sea came up to report that they had been attacked by a strong body of hornets. The invaders were repulsed with any available instrument and routed after a few had been killed, though odd members returned to the onslaught on the camp on subsequent evenings. Now hornets have grown rare of late years ; and though few of us will be found to regret their scarcity, these hornets’ nest, sometimes built in the open air, is a thing of exceptional attractions : the paper work is better than the

wasps', and the scale bigger and the pattern more intricate. It seemed, therefore, well worth while to seek for the base from which these dread hornets had issued. But none could be found, though one was rumoured by a scout who had fled from its neighbourhood and could not thereafter quite locate the spot.

The next evening one of the enemy was captured alive and brought for my inspection. There had been some idea of trying the old plan—was it ever successfully worked?—of gumming a bit of thistledown to its back and by aid of this light tracking the released animal to its lair. But of such devices there was no need. The creature had not issued from any hornet's nest and was as nearly as may be harmless. The wasp-like bands of yellow were indeed of the nature of a "warning coloration," and from the tail protruded an alleged sting near an inch in length. The size was greater than any hornet's, indeed, the dread creature was the biggest of all British hymenopterous insects and long ago earned the name of the giant, of *Sirex Gigas*, the gigantic sawfly.

It was something of a mystery why or how so many of these "fearsome wildfowl" should have collected in one place, and that a bare field. They are not very common anywhere, and do not nest in great swarms like hornets or wasps. They had not been seen in the neighbourhood for years, though it is sawfly country, being well clothed here and there with the right species of fir-tree; and these sawflies are particular about the sort of tree they select for their nurseries. The most probable explanation was that the insects had issued from a pile of spruce logs that had been collected for the camp fires. The special adaptations of this insect are as strange as those of any creature alive, even of the hornbill, which stands as a classic example of queerness—some say of

aimless queerness. The long "egg-depositor," taken by apprehensive youth for a sting, is itself inexpressibly queer; and its mechanics are a wonder. It is strongly fixed to the underside of the body, and strongly hinged, so that the insect can gimlet a tunnel at a sharp angle to its body; and it is hard to believe that so delicate a scalpel as the visible sheath contains can drive a hole into living trees, through rough bark and juicy cambium and pithy cells.

The same wonder is caused by the carpenter shell of the parasite—itsself a giant—that destroys the grubs of this apparent wasp. Why is it that some creatures are thought ugly and inspire fears? No one is afraid of a bumble bee, however large, whether banded with red or yellow or white. We feel almost affectionate towards the great furry creatures, and the men of science have given most of them rather friendly names, indicating that they belong as of right to our gardens and our fields. There is an "*agrorum*," and "*hortorum*," as well as an "*agrestis*;" no one would so much as think of destroying any *Bombus*, however named, though an American poet has called him irreverent and buccaneering. Yet most of them are ready enough to sting, and to sting effectively; believe one who has put his hand inadvertently into an old thrush's nest which a queen bumble had adopted and adapted for her growing family. More people, perhaps, are stung by hive bees than by wasps, and the poison is as potent, a quaintly compounded mixture of acid and alkali brewed at the moment of impact. Most people have a sort of hate of hornets, wasps, dragonflies, and sawflies; and more reasonably, perhaps, though with insufficient reason, of centipedes, so-called, of millipedes, of wire worms, earwigs, and hairy caterpillars, and especially the grub of the cockchafer. I have

seen a countrywoman run in alarm from a hedgehog, most peaceable of creatures, and beg someone to go kill it.

The general question arises: What is ugliness? Perhaps the right answer is that there is no such thing. It is only a negative quality, though the opposite case may be argued from natural history. Undoubtedly certain colours do seem to issue a warning: the jaundiced yellow of the hornet and the scarlet of the tiger-cap mushroom repel us for no apparent reason. The wasp is undoubtedly the worst sufferer, partly owing to its absurd fondness for marmalade and lemonade! Yet no insect is more amusing to watch. You may sit and stare within a few inches of the nest, and even play pranks with your fingers, and yet risk no reprisals. Every time you watch you discover something new about the technique of these most marvellous labourers. This year, for the first time, I noticed that they will fly backwards when carrying an extra large morsel of earth away from the nest. For myself, I must confess that it was a real disappointment when the gardener's hate prevailed and a nest I had watched daily from its first formation was incontinently destroyed by the agency of a white fly fumigant and a clod of earth.

9.

A small company of wasps just outside the garden has carried on a forlorn hope with such skill and persistence that their bitterest enemy was sorry for them and went daily to watch their brave endeavour. Their nest, built in a hole beside the lawn, was "taken," that is destroyed by cyanide, a chemical so deadly that it was not thought necessary to plug the hole securely against any surviving members, but a bit of brown paper was carelessly thrust

into the mouth. The wind blew it out, but left it lying at a small remove from the home. Since the destructive act had been performed rather early in the evening, a certain number of workers missed the catastrophe. They numbered about forty, and failing to enter the poisoned hole, which was choked with crumbled earth, were at first at a loss. Then they saw the paper ; and the paper suggested an idea, a queer and despairing idea that in spite of their weak numbers they proceeded to carry out.

The brown paper must be the relic of the nest that at first they could not find ; and it was their duty to rebuild ; so at once they set to work and began by turning its creases and folds into cells. They did not chew the paper itself up, but fetched their material from a neighbouring fence, converting the wood to paper by the usual process, half mechanical, half chemical. After two days of work the crumpled lump of brown paper looked just as if it had been burned at the edges and the ridges of the creases, each of which was adorned with a grey fringe. This pallid pulp compounded by the wasps looked curiously like ash against the brown. The first impression of one observer when he first saw it was that the paper had actually been burnt at the time of the taking of the nest. As always with wasps (whose motto is labour, though their work, unlike the bee, is wholly altruistic), the reparation of the supposed nest went on apace, and soon a number of complete cells were finished, ready for the eggs that would never be laid.

So far as could be seen no queen was present. A census, as full as could be ensured, put the total of workers at rather less than two score ; and only a portion of them fashioned cells. There was one supreme artist. When she arrived well loaded with invisible paper pulp, you could see her get the rim of a cell wall into her

mouth and move steadily along, till an extra edge was added over the half-circle. The new fringe could be detected by its dark colour, for it did not fade to the ashen colour of the rest till completely dry. I have often cut bits of the circular edge of a wasps' nest, not "merely for wantonness," but to watch their singular speed and thoroughness in the work of reconditioning; but in those cases there was the living nest to work at and the busy life of the community to tempt the co-operative action. This wasp was working on a fluttering lump of paper that might have blown away at any moment, save for a hairpin that had been borrowed as the best available anchor.

What was the impulse to this strange selection? Did they recognise the brown paper as paper in spite of its difference from the grey paper of their own construction? Or did the shape suggest a nest? Or was it all merely an example of Clough's dictum: "Great is juxtaposition," for the paper was not more than two feet or so from the original nest. Had the paper borrowed some smell from the hole it had corked for a short while? At any rate it seems that in their blind instinct to repair damage at once, they had seized the first excuse, the one available chance. Better to make paper cells uselessly than to reject the prompting of nature. Inquiry was soon cut short. Rain descended heavily, and the temperature fell. The workers, exposed to the full force, died or disappeared. The most vigorous could do no more than chumble vainly. The slender edgings and cells were soon soiled and pitted; though but two or three days old,

Beated and chopped with chill antiquity.

The dripping paper reminded me of a burnt house I once saw, from whose charred windows and gaping arches

dripped a sooty ooze from the storm that had helped to quench the original fire.


Towards the end of the season the cold and wet usually quench the gregarious instinct of the wasps. The queens, often produced towards the close in very great numbers, have left and are seeking hibernating homes of which the chief is the space behind loose bark. I found one year a very active nest in October, but this is perhaps rare. Generally the workers give up communal work and seek what food they can find for themselves on the flowers of bramble, and especially ivy on the south side of wall or tree. So it may be attributed as a special virtue to the survivors of this vigorous community that they set forth on "adventures new" on the edge of deadly autumn, and the last few days of their life.



OCTOBER

*Gone!—A Deserted Garden—The Glory of Hampshire—
Forgotten Hoards—St. Luke's Summer—October's Spring—
Southering Birds—Picking Apples*

I.

N October the fifth we first missed a friendly sight that had delighted our waking eyes each autumn morning and prolonged an old pleasure altogether beyond expectation. Throughout May, June, July, August, and September, a particular pair of swallows have been our companions. They nested in a verandah that was also a bedroom, and every detail of their life was watched through the day: the building, the brooding, the playing, the singing, the feeding of the young, the flying, the escape from the nest, the return to the nest. The low song of the male, which he sang almost in the ear of his brooding mate, was so sweet and varied that henceforth we shall include the swallow in the company of nightingales, blackcaps, larks, and the thrush tribe, among the supreme lyricists, and we shall divide birds' songs into two divisions: those that are sung for all and sundry, rivals as well as friends; and those that are addressed to the "lyric love," and for her ear alone. "Why do birds sing?" is too rough a question. They sing one sort of song for one set of purposes and another sort of song only "for love," as people say when they exclude more mundane interests.

The young swallows have all flourished and grown quickly, and with accidental kindness have left the ver-

andah, though sometimes they still slept there, to perch every morning on an aerial wire that crosses in front of a bedroom window. They stand on the wire, or sometimes on the opened window sash, in close company, busying themselves all the time with their toilet. The pecks at the breast and under-parts of the wing are sometimes so vigorous that they overbalance, and how strangely big the wing looks when it is suddenly shot out to correct the equipoise! The fluff that the feathers displace and succeed is perhaps a definite cause of irritation. Many young birds pull it out and so forcibly get rid of it, like the "winter weeds outworn" of those who enter the golden age. Some birds devour it then and there, and the strange food does not appear to do them any harm. Their immense appetites, even for such unlikely diet, are perhaps the necessary preparation for the big flights that they meditate. The migrants all appear to be busier feeders than our own birds, or at any rate to continue longer feeding their fledged young.

The weather was bright and the evening air singularly populous with midges the day of the morning when the wire, where the birds daily twittered, if they did not sing, was bound to be a "bare ruined choir"; and if there had been a morning frost or two, it had not greatly changed the season. The only obvious mark of it in the garden was the utterly melancholy collapse of that tender gourd with the gorgeous orange flower which we call a vegetable marrow. The bees were still hard at work in the asters; and on that day or thereabouts a wren had found a green caterpillar, with which in his beak he made short fussy journeys from this perch to that as restlessly and proudly as a spaniel with a bone. He even sang a short song to celebrate his feat. The swallows perhaps were more sensitive, more nearly aware of the signs of the

times. The frost was their signal, and they are gone. A very real pleasure of five months' duration is at an end.

Shall we see any of them again seven months hence? The idea of ringing one or two of the nestlings was suggested; but they were too friendly for a scientific experiment; and some of us cannot quite get rid of the idea that with very small birds that ring, however light, however neatly adapted to the slender shank, is a handicap, a cause of discomfort, a burden that cannot but be felt on a 5,000-mile journey; and if the swallows come back (as one pair came back this year to a neighbour village), they will have covered not less than 11,000 miles, much of it in prolonged flights. The swallow, as a number of experiences prove, may succeed in carrying the ring all that way; but the objection holds against weaker fliers. How very rarely is there any return of the smaller warblers! I would plead for a statute of limitations; that no bird should be ringed if it weighs less than three ounces.

Where are our companionable swallows to-day? In front of whose eyes will they hawk for flies in November? Will they keep together in one family till they meet to pair in England seven months hence? These are not quite such despairing questions as: "Where are the snows of yester year?" for we begin to know at least the line of the route that our British swallows inherit the desire to pursue. It is of scarcely credible length and probably of precision. This family will set off probably by day from the South Coast, will cross the Bay of Biscay, coast along the edges of Spain and Portugal, and after they reach Africa see nothing but land till they catch a glimpse of the ocean by the Belgian Congo. Then, travelling inland again, will settle for the winter on the

East, rather than the West, side of Africa, in the Transvaal, or Orange Free State, or in the Cape. Half-a-dozen English-nesting swallows have been found in that south-east corner of Africa in December, January, February, or March. Their flight will measure not less than 6,000 miles ; and if they live to make the return journey, it is odds that they nest again in the same eaves, or at worst, in the same county. They are home-loving birds, and may return year after year. All this we know beyond conjecture. But what a fantastic journey for those little fluffy, cheeping birds we have been watching each morning at their toilette, while they wobbled precariously on the sagging wire ! Is it at all possible that they are flying 6,000 miles or more to delight the eyes of some dweller in the Cape ?

2.

It has fallen to my lot this October to see just what happened to Eden after the Fall. This was *my* Eden and previously imagination had quite failed to grasp the suddenness of the degradation. Most of us, perhaps, have visited deserted gardens. One historic place in Merioneth is now a sort of pilgrims' resort. People go there to be shown how nature can reclaim to herself what officious people had half taken out of her hands. But that garden remains beautiful, for it consists largely of trees, and the chief weed is the rhododendron, which sprouts from rock and path like any pennywort or harts-tongue fern. It would almost deserve the approbation of the lotus-eaters :

Here are cool mosses deep,
And through the moss the ivies creep,
And from the craggy ledge the poppy hangs in sleep.

Indeed, that garden of moss and ivy is near the haunt of the rare and lovely Welsh poppy. That deserted garden is still lovely ; and if a little melancholy, the melancholy is of a gentle and restful sort. It is far from being akin to the grim repulsion of this more easterly Eden.

The garden had been carefully tended, for its owners had made it for refreshment after the war. The floor of the orchard was mown close, so that any windfall was at once advertised. There was sometimes a race between moor-hens from the river, thrushes from the ivied trees, and persons from the house to secure the fallen fruit. The birds knew as accurately as the owners which were Cox's, Blenheims, or Charles Ross's, and which the shiny and acidulated Bramley's Seedlings. A sweet-briar hedge and flowering shrubs divided flowers and lawns and orchard from the potager, which-consisted of a rood or so of trim patterns—of espalier fruit alongside the paths, of ruled lines of strawberry, of raspberry, of lettuce, of onions, and the rest, for the gardener had the true countryman's delight in sheer neatness. Even dogs and cats who entered the garden knew it for their duty, though they strayed on occasion, to keep to the paths.

My dispensation came to an end precisely at the June quarter day. Before the next quarter day the ruin was complete. *Corruptio optimi pessima*, and one must add *celerissima*. Within those few months of a lovely summer, a lovely place had become almost loathsome. You felt not that nature had resumed her sway, but that some evil force in the world had been at work. Scarcely known weeds had appeared, henbane amongst them. Docks, and great plantains, and artichokes had heaved up even the asphalt paths. Bindweed had dragged a *Berberis stenophylla* into fantastic patterns, and hogweed so

smothered a precious hypericum that it was only found after a considerable search. A wild clematis must have grown twenty feet per shoot, and the shoots were legion ; it was like an octopus, and its chief food was roses and nasturtium. An onion bed—and onions need more care than even *Lithospermum prostratum*!—had disappeared, though its technical perfection had been a daily pride to its maker. The new owner had not discovered it beneath its weeds ! The old owner, though he knew every inch in the dark, crossed one path without observing it. A perverse energy of ill-designed growth seemed to have been instilled even into the most orderly and delicate of shrubs. A burning bush, or *Rhus cotinus*, had overflowed across a broad path into a herbaceous border that was hideous with sow thistle. Unbelievably fantastic effects had been produced. The flowers of a giant daisy put their heads out of the foliage of a quince tree. One single scarlet flower decorated a nap of weeds a yard high : it was the one survivor of what had been a line of sweet-peas. A poplar tree had fallen over and faggots of growth grew vertically from the bent trunk. An old apple tree had parted from its prop and the bark heaved visibly over what proved to be a scarcely credible horde of woodlice. As you walked through the long grass you crunched unseen apples, many of them half-eaten not by thrush and moor-hen, but by slugs and spiders, the spiders of a rare race. Maître Pangloss himself, the philosophic original of Mark Tapley, could not have talked optimism in such a scene : the waste and ugliness would themselves have refuted him ; and Candide have driven home the moral of the great discovery : “ we must cultivate our garden.”

The good rye, as well as the ill weeds, had grown at a scarcely credible rate. Bushes planted to make a screen

five years hence were already a screen, looking denser perhaps than the winter facts would justify, owing to the kex, the bindweed that filled up the chinks. The Thuja had been only less rapid than that famous galloper among evergreens, *Cupressus macrocarpa*, of which one plant had become in the interval a tree in place of a bush. Its record of growth was certainly not less than four to five feet of height ; and at this age, as an inch or two with growing children, so small an absolute measure makes all the difference. The whole place felt uncomfortably strange. Gross caterpillars, one entirely new to the gardener's experience, were gorging on the leaves of rose and convolvulus. Even the bit of river that ran through the garden had suffered an earth change into something dull and ugly, for the mud had accumulated into islands and banks that showed a slimy surface, doubtless horrible to the trout with which the neighbouring reaches had recently been stocked.

Perhaps such sights, for all their nastiness, may help us to value yet more precisely the presence of a well-kept plot. So far we may agree with the philosophy of Maître Pangloss. Its charm is the expression of unceasing, affectionate care. Even a week or two of intermission, even a temporary lovers' quarrel, may introduce fearsome offences ; the suckers sprout, the gout-weed runs beneath the soil, the sow thistles and the plantains seed, the apples bruise, the ants invade the moraine, the offspring of the craneflies hatch out unseen by the friendly birds, stray dogs discover an entry. Every garden is the expression of careful affection. So in some measure is the better part of the scenery of England : its fields, its hedgerows, its dykes, its roads and lanes and even its commons and woods. Not of England can it truly be said that man made the town and God the country. In

our island man shared the making of both and made a much better job of the country. Some fields are like this garden. May it never be proved that they are an omen.

3.

It was almost painful after the experience in my deserted garden to spend a day in one of the finest and best kept gardens in the South of England. It lies on the edge of the New Forest, in a wide space where you may well feel that you touch the pulse of the very heart of England. The soft lights of October and the tint of autumnal colours have subdued everything to a delicious consonance. You feel this ; but very soon become aware that you are walking down paths and in glades where the plants of half the world are represented. There are fine oaks with clean trunks ; but there are fine cedars of Lebanon with their " layers of shade." There are quiet pools of water with water lilies, white and yellow, as in fen ditches ; but among them are lilies magnificently blue and red ; you are tempted to call them rather nenuphars. You may walk for mile after mile, and at each turn of the path see something new to you : a rare barberry, as many coloured as the floor of a Newfoundland wood ; a berried shrub from New Zealand ; a lofty American pine tree as luxuriantly draped in a flowering creeper, as if it stood in a tropical forest of Brazil.

A small cascade of water falls over dark stones, patched with English ferns ; but among them gleams the blue gentian from China, as thoroughly at home as the bluebells in our woods. Every continent has supplied trees, shrubs, and flowers, all flourishing, all attuned to the October landscape. Most wonderful are the rhododendrons, some of them brought from the higher peaks

of the Himalayas. I suppose one of the strangest passages in the literature of plants is Mr. Kingdon Ward's account of his view from the more barren heights of the Tibetan tableland over the green stretch of the lower forests composed of huge trees as tall as they are close. He gazed at it for some while before he realised that he was looking down, not as he at first supposed on the foliage of the tops of trees, but on rhododendron bushes which had climbed hand over fist up the tallest trees in the search for light, planting their roots at stages in the ladder of the trunks. By what miracle comes it that bushes so grown on "the roof of the world" in a distant continent should consent to flourish and flower luxuriantly under the trees in a low-lying and rather barren stretch of this temperate island? They not only flourish; they look to the manner born. The English robin sings his plaintive English song among their leaves, and above their roots is spread for bedding deep layers of English bracken.

I write of a garden so spacious, gardened with such landscape skill that you might believe it was part and portion of the wild, left to its native glory, save for the pattern of the paths. The art has concealed art. The alien shrubs look as much at home as the deer or the ponies or the herons that range the forest. To call them exotic would be to miscall them, though the species are in hundreds, and the varieties perhaps in thousands. The place is as satisfying as a Scottish moor. The miracle of such an enrichment of else half-barren acres seemed perhaps the greater as I stepped into it straight from the Sussex Downs, whose sweeping lines are unbroken for mile after mile by any visible shrub or tree whatever; and in their folds the rare homestead is bosomed only in native elm or sycamore.

One of the greatest contrasts to be found in Britain is between these chalk ridges of Sussex and the peaty plains of Hampshire and the New Forest. The lowliest things, especially the finer grasses, such as sheeps' fescue, love the chalk; the most splendid bushes, such as azalea, love the peat. The animals, too, differ. One of the commoner birds of the Downs and Down valleys is the butcher-bird; below, along the fishy ditches and waters, you are seldom out of sight, if a day or two of experience is any test, of the heron, whose wide wings become as much a feature of the landscape as the sails of a windmill in the Fens. Yet each in its way is held to be peculiarly English in savour.

Some of those who most deeply appreciate these English qualities have introduced, as in the great garden of my admiration, every sort of alien plant. Foreign trees grow up beside the oaks, whose fellows made wooden walls for some of the most famous of Nelson's ships. Yet when you come upon an American pine enveloped in a hydrangea, it looks as much at home as an oak caught in the embrace of a honeysuckle, an association most native to the wild woods of the adjacent Manor. What is the secret? There are some ten miles of walks through this one landscape garden; and each view at each turn is eloquent of England, not least one ride or glade made gorgeous by bushes from the upper reaches of the Brahmaputra and the north corner of New Zealand. Atmosphere has some share in the miracle. So has the skill of the landscape architects, in which our country has long excelled. But oak and bracken have more to do with it. They are to the garden what Saxon roots are to the English tongue, and what stays in the memory is not a leptospermum from the Antipodes, but the trunk of an oak islanded in a sea of

bracken. These are to the woodland what ling and heather are to the open spaces or the vertebrae of chalk to the rolling Downs.

4.

Since the grey squirrel was enlarged in England countrymen have continually found his hoards of winter food. One was discovered hereabouts the other day : a pitful of chestnuts, numerous enough almost to stock the village shop throughout the winter. Now, the squirrels are tree-haunting animals, as fond of gambols in the branches as any monkey ; and graceful beyond any mammal we have. In America the smaller members of the tribe are the most familiar of all animals, thanks to their quaint and peculiar curiosity, or so it seems, towards mankind. How often, as you walk along a road, a little chipmunk will shadow you for a mile or so, skipping his eccentric and inquisitive way in and out the rough fences, and peering at you, as you yourself might peer at a strange bird. In the large we see little of our brown squirrels from English roads or public places. They are more shy and keep closer within the woods or the trees of the park. Few signs of their presence are to be seen by the more casual observer until winter comes and the fallen leaf throws open to all eyes the great clumsy dreys in the trees. They then become more conspicuous than crows' nests or even magpies'.

Most squirrels live in trees, though they burrow in the ground, not altogether unlike the little owl (often quoted in the same breath as the grey squirrel as specimen of an undesirable alien), for these owls now resort more and more to rabbit holes, for shelter and sometimes, it seems, for mere amusement. This persistence in burying

food underground is the more curious in the grey squirrel, for he makes two sorts of tree-nests : one for his breeding home, the other for his winter comfort, where he may in some measure hibernate, or at least sleep through many of the cold and else comfortless hours that are to come. Now, these buried treasures are not difficult to find. They are usually large, and must have involved a vast number of journeys to and fro. A well-considered and wise policy seems to have been invented and pursued. The squirrel has made preparations against the winter only less laboriously than the hive bees, whose whole community depends for life itself on the amount of gathered food, for consumption during the months when flowers have vanished and the cold prohibits flight. The store and the snug hive provide the food and warmth that alone can support existence. The squirrel's hoard of nut-food and his grassy drey, clumsy to look at, but effectively contrived, would appear to subserve exactly the same purpose. Yet the analogy does not hold. The number of hoards that have been found is legion ; yet I know of no single case in which the hoard has been used. You find as many old hoards as new ; and in none is any sign that it has been disturbed or even visited. You would think that the many journeys would have impressed the future on the squirrel's mind, whether he had intelligence or not, and so emphatically that he must have followed its promptings ; for all mammals possess a gift of memory. It is conspicuous, for example, in the horse, which some of our more modern biologists are fond of describing as stupid, in comparison with dog, donkey, or pig ! I could quote examples of the memory of mice ; and many birds remember marvellously. Do squirrels forget ? Perhaps some zoological professor will put down this question

in his next examination paper : Do squirrels revisit their stores ? If not, why not ?

The squirrels—grey and brown both—seem to waver between different instincts. They have not decided whether to imitate bee or bat. Fieldmice and dormice, to give contrary examples, have much more straightforward practices. The first will collect nuts as busily as the squirrel. There is a board leaning against a reft oak paling in my garden which is much appreciated. Quantities of the nuts fallen from adjacent trees are carried there and, in most literal obedience to the Arnold maxim, “ remembered in tranquillity.” They are all most neatly cracked and parsimoniously eaten. It is true that one finds old birds’ nests half filled with kernels carried there by mice ; and some of these caches may have slipped from the memory ; but in general mice and (I think) most other rodents devour what they collect ; and get through the winter nearly as successfully as the dormouse which wraps himself up in a ball of bents and slumbers continuously. There is no wavering with him. “ The world forgetting, by the world forgot ” he secures the benefits of warmth, concealment, and anaesthesia till the world is again comfortable and the tide of life tells him that all is well.

The depositing of food in a secret place, if not its storing or its burying, is curiously general. The black-birds and thrushes that are robbing the rowan tree in front of my window of its red berries like to carry off a certain number and eat them under the concealment of the lilac bushes. In most gardens are to be found such retreats, often proclaimed by the number of seedling trees, thorns, hollies, ivies, and what not, which spring up from the rejected stones or pips. Foxes have a way of carrying home more than they would appear to want

at the time. Ducks' eggs, quite unbroken, were, for example, found in an earth in my neighbourhood. Dogs, of course, are inveterate buriers, and often forget their treasure, though sometimes their memory is long and precise. A spaniel of mine, who was away for nearly five weeks, on his return rushed off without a moment's pause to one of his buried bones in a remote part of the garden. Premonition of the hungry months is almost as deep in the bone and being of the animal, insect, bird, or mammal as the prompting of spring. It warns them to store, to bury, to retreat, to congregate, and to isolate, to wrap up, to lay on fat, to kill useless members, even to imprison food-producers. The squirrel plays perhaps more parts than any other, and therefore, perhaps, does them rather worse. He forgets his hoard, makes a clumsy and obvious nest, hesitates between sleep and hunting, and is only saved from starvation by possession of a catholic taste in food. The grey (which, after multiplying, rapidly begins to decrease and is suffering from a malady all his own) is rather more omnivorous, if that word can be qualified, than the red, and hitherto has seemed more resistant. It is a pity. What all countrymen desire, except a few foresters, is a greater population of our own native, the neatest, prettiest, loveliest animal that the woods know.

5.

Almost every virtue of every season is contracted into the little span of St. Luke's summer, the very vintage of the year's juices. It is curious to see how obedient to the almanac and therefore false to the nature of an English autumn, are some of our exotic and imported plants. The Virginia creeper and, less prematurely, the

ampelopsis burn themselves away in a suttee that is quite alien to the English spirit. The green elixir skedaddles from the leaf, back into the stem, almost at a fixed date, and at the first threat of frost ; and leaves so splendid a blaze of colour you might fear that the old grey walls of Oxford colleges were going up in flame. It is a sort of arson, magnificent, but not altogether in accord with the temper of the physician's summer.

When you step out of the house early while the sun is low in the east you face a line of elms whose solid greenery is, if anything, enhanced by the few golden patches where a less sappy bough has faded into autumn. The Assyrian cohorts were not more gorgeous in purple and gold than the long garden border where the tall asters and golden rod mingle ; and there is an hour when the close cut grass path between them surpasses them. The dew has the virtues of both pearl and diamond. The rounded perfection of each bead reflects every colour of the spectrum ; and as you move you may see these colours join one another into patterns, into small haloes and rainbows and eccentric arcs. Everything that has moved across the surface has left its trace, as if the surface had been treated for detective purposes. It used to be the custom of a great naturalist, whose sanctuary I once visited in the United States, to dust sand over plank bridges that led to a little island where a hollow tree had been artificially built, and flat trays jutting from the trunk were similarly dusted. In the morning he would go a round of inspection and take note, if need be take a print, of every slot left on the surface by beast or bird.

What Mr. Thompson Seton did with sand at the Cos Cob Park (the original Boy Scouts' camp) any of us may do with a trim lawn on an October morning. The

tracks of hedgehog or mouse or robin break the lines and arcs of dewy light that twinkle in the soft sunlight as completely as the fresh piles of earth thrown up by the worms, whose singular activity at this season is in part responsible for the earthy smells that belong peculiarly to what some call a cubbing morning. The vanishing mist which never wholly vanishes is another cause. It holds the perfume so completely that no flower in the list is any longer liable to Francis Bacon's charge of being "fast of its smell." It is amusing to discover at what distance flower scents may carry at this misty season. A bed of that old autumnal favourite, the garden heliotrope, is perceptible at as great a distance almost as a field of beans or mustard : and a thin October mist will increase its range by a chain or so.

In some countries St. Luke's summer, though it is not so called, is recognised by law for what it is, a survivor from the youth of the year, a piece of belated spring. In Newfoundland, where for the rest autumn is singularly conventional, a boastful display of the splendid colours of decay, a close season is interpolated into the open season on behalf of the caribou. It is their spring. Was ever an open season closer than in England to-day ?

And what does the open season mean ? It means that the hunt is up, that the trees are becoming "bare ruined choirs," that the horseman can see where he lands as well as where he takes off, that ditches and margins are seen for what they are, now stitchwort and kex and the random grasses have withered clean away. It is a time when

The sedge has withered from the lake ;
and no birds sing.

The flowers are supposed to be dead, and fields clean of crops and the hedges a beaded filigree and the birds no

longer in pairs, but in growing congregations, and the vermin stray far in search of food, and duck and woodcock from the cold north take the vacant places of wheatear and swallow. How little does such a defining tally with the interpolated summer of St. Luke that fills the morning air with inspiration !

Walk across country, and what do you see ? Not what you are supposed to see, a riot of autumnal coloration, not the melancholy of a land where—if one is still allowed to quote Tennyson—

The woods decay, the woods decay and fall,
And after many a summer dies the swan,

but a succession of summer sights and sounds, softened, but not saddened, by the fall of the year. Walk along the hedgerow, still a solid screen, to the plateau on the hill. The most autumnal thing is a glistening sheet of satin. The halcyon day is a gossamer where the latest and largest of the young spiders have paved the path of their migration with a silken sheen. In the small litter of conventional autumn the speedwell, pimpernel, succory, scabious, and harebell blossom ; and the overripe berries of the blackberry, whose leaves are half-evergreen, stain opening flowers. If you would taste the quintessence of England's vintage, go out into the fields on an October morning while still the kindliness of our clime makes sanctuary of the hunting months.

6.

Walking over a stubble in Berkshire, perhaps the loveliest of our counties, some of us turned from the spacious view—the clumps of beech, the black junipers, the bare line of the Down, the expanses of the valley—

to wonder at the multitude of flowers of the speedwell and pimpernel that we perforce trod under foot. Among the junipers and climbing about them was a honeysuckle in flower. On a singularly stiff chalk tilth the plough had only half destroyed a number of succory. The big blue blossom of one plant was held up unhurt on the stalk, though sticking out stiffly at an odd angle. In form, colour, and size it was worth, some one said, a place in any garden. As booty of the walk were carried home a variety of flowers, all mixed up in a bouquet of berries, especially of the spindle. It is a bush that all of us would be wise to add to the flowery shrubs in our gardens, if it did not play the host to the black fly that attacks our beans.

Now the flowers are almost as characteristic of the season as the berries, though they find no place in the odes to autumn, in which our language is rich. Even Hood, who comes second only to Keats, is in this respect a little conventional or traditional, and is deceived like the rest by the date. Yet always in England we may find abundant wild flowers of sorts in October, even in November and December ; and within the garden forget to wonder at this yearly miracle. The flowers are as reluctant to go as a certain family of swallows of which I wrote some weeks ago. The fourth brood are now, and only now, well-fledged, and will not attempt migration for some days yet. The roses, too, feed their fourth brood. Doubtless the year is exceptional in this regard ; but it is normal in England for October to serve as a tryst for flowers theoretically belonging to more exuberant months.

Our specialists have exploited this quality (peculiarly characteristic of England, where St. Luke and even St. Martin are much more kindly than St. Valentine) ; and have produced many flowers and fruits of so-called

perpetual habit. What bouquets of fragrant roses we gather to-day : the rich reds K. of K. and Etoile de Hollande ; the lighter red of Covent Garden ; the queer hybrid pinks of Betty Uprichard, Shot Silk and Madame Edouard Herriot ; the bronze of Emma Wright and Irish Elegance ; the flushed white of Ophelia ; and not least, the cream of Mermaid, which will flower into December. With these, in my garden, is just one blossom of sweetbriar, that native English rose, actually touching the ripe red hips, autumn embracing spring. Some plants have never acknowledged any change of season, and of these the most consistent has been the common *doronicum*. It blossomed peculiarly early in the spring, and to-day the flowers are as fine and the stalks as long as ever they were. From afar you would take it for some autumn daisy. It has survived such typical autumn things as the golden rod, one of the wild flowers that adds to the feast of autumnal colours of Newfoundland. Of its company are various primulas whose very name reminds us that they belong of right to the beginning of the year. They flower beneath a blossom or two of the winter jessamine. One could certainly make a list, between the field and the garden, of three or even four score of plants : annuals, biennials, and perennials, now in blossom : chicory, delphinium, cornflower, snapdragon, foxglove, marigold, daisy, aster, rock-rose, and the rest ; and among them are a few shrubs already in the heyday of their sweet scent and fresh flower heads, such as the fragrant viburnum that should be in every garden, or the dark blue herbaceous *ceanothus* ; but the plants that particularly assert the charm of English weather at this season are those that are definitely tempted to enjoy a second spring, such as the aubretia, or arabis, or some varieties of the white and yellow *cistus*.

It is scarcely an exaggeration to say that there is really only one season in the year, in our English year ; and that season is spring. We go out to pick our Kentish cobs or long-husked filberts, and find February's catkin growing fast, and hiding their fresh green under the withering leaves which also conceal swelling buds in their axils. We dig up an ugly and altogether withered stem of a willow herb and find the white roots shooting as freshly as the sweet pea flower shoots, which have more obviously found their second spring. What, after all, is winter? Nobody quite knows, but the more inquisitive botanist begins to feel quite sure that something is happening to the roots all the time : the process of spring is continuous, though cold and dark may name the doom of this plant and that. The winter flowers or leaves—of primrose or laurustinus, or hellebore, or honeysuckle—are an advertisement for a general activity that proceeds underground. Put your ear to the hive on a winter day and you will hear the murmur of active life. The hibernating pipstrelle is not so deep in winter sleep that a warm evening will not wake it. There are plants that hibernate more thoroughly than others, that is all ; and there are some that sing like the robin through every month of the year and nest perhaps in January and protect their own brood in March.

7.

In the great flight from winter which we call the autumnal migration and regard as one of the blind mysteries, some intimate, almost domestic, and quite unmysterious passages are to be traced. They appeal the more for their coincidence in time with the dreadful mortality of the poor swallows who met premature

winter on their first day's journey to the South. As I walked the other day along a fence, diversified here and there with bushes of thorn and briar, two willow warblers, doubtless a pair, potted along in front of me. They chirped rather than sang, and had the manners of birds that pair in spring, keeping close together, playing with one another, obviously happy in one another's company.

I must believe, do all I can,
That there was pleasure there.

We all know—especially in the sphere of botany—that autumn is a second spring. This return migration was more springlike than the early migration to the pair of warblers. For in the spring the small birds are apt to come in distinct and unisexual companies, with the males in the lead.

The next day, after this hedgerow walk, two pairs of warblers were playing about in the garden, calling, and, in the case of a pair of chiffchaffs, singing, their little lyric, if the word may be used of their few grasshopper notes. In such a leisurely happy way, slipping quietly from place to place, but always in a south or easterly direction, a good number of the small birds, but chiefly the commoner warblers, drift towards the coast, gather into the flocks or companies that buzz like flies about the lighthouses, and at last dare the dangerous journey across the sea. One would like to know whether these domestic pairs, travelling so fondly to the coast, keep company thereafter in the midst of the crowd, and pair again, if both should survive, in England in April next. It seems likely that they do. Generations ago, long before anyone thought of ringing birds to the end of discovering their movements, swallows were marked,

and proof was found that the very same pairs came back to the home-eaves after the double journey.

The autumnal instinct to gather in flocks seems to be only less strong than the spring compulsion to pair. The faithful and affectionate swallows—"philoprogenitive," as they would say at the British Association, beyond most birds—are peculiarly gregarious. This year very large companies met together on the telegraph wires every evening, as early as August 20. The flocking, after all, is only an extension of the family party. With birds, such as swallows, which have successive broods, sometimes—as we saw—as many as four, the young must roost where they can, and do roost, shoulder to shoulder, enjoying the warmth from one another's bodies as well as the company. The mere attraction of a suitable perch would, and does, help in a small way to draw the birds together, though beyond question there is a herd instinct that derives from some deep compulsion beyond our analysis.

A fair number of swallows, still on the eve of October, patrol our English meadows and rest on the southern slopes of our roofs if the sun happens to shine. A few families of young are not yet strong enough to dare the great migration; but the greater number are gone, in flocks; and how big these may be the strange events in Vienna have proved. They travel in tens of thousands, and may die in tens of thousands, even when the weaker are conveyed by aeroplane across the Alps. There seem to be two sorts of migration, of which the lesser often concludes in the greater. This is the drift towards more warmth, more food; and this may be enjoyed by pairs who retain the sense of spring. The subsequent collection in multitudes evokes a deeper and more mysterious desire for "something remote and

afar" from the scene of our winter. It resembles a "Schwärmerei," in its literal sense, the wild inspiration of a migrant swarm of bees, in the sense it figures, an ecstasy of irresistible desire, that is meant for the saving of the race, but is often suicidal to the individual.

Save I take my part
of danger on the roaring sea,
A devil rises in my heart
far worse than any death to me.

The difference is that, with the birds, the devil is merely misery and starvation.

In wonder at these vast, concerted migrations, it is well not to forget the more individual and unsystematic journeys. A marvel as great in its degree as the Viennese swallows has been recorded—though but little noticed—this autumn. A widgeon from North America has appeared on one of our sanctuaries; and whatever may be the explanation of this strange event, we have proved of late that birds do, on occasion, fly the Atlantic; and that others (against all established rules) may move north from their nesting haunts. These exist in short, casual, adaptive, unrehearsed, uninherited, impulses to migrations (as in kittiwakes and crossbills), as well as the rushing of blind herds from north to south and south to north.

8.

This autumn most of the apples seem to have ripened together, and therefore the harvesting is intense. It is a question which shall be picked first—King Pippin or Newton Wonder, Cox or Blenheim, Coronation or even Bramley's Seedling. It is as if apples could be dichotomised into just earlies and lates, like the apples-of-

earth. And for the most part, what paltry fruits those earlies seem in comparison with the fruit we are now gathering : Codlins that bruised like a peach and went brown in a week ; soft-fleshed Beauties of Bath, and sugary Worcester Pearmains, loved of a large public, especially the young, but scorned of the experts ; Gascoigne's Scarlet, with their flashy cheeks and white flesh, that have already gone flabby on the shelves. We may forget them all, though they played a useful part in their brief day, and not lose much. The apples we are gathering now will still be robust in mid-winter ; and some will see the migrant birds return. Their harvest is worth some thought and care.

When you have picked all you can reach by the domestic steps and the short ladder, and come to mount the 34-rung, you begin to discover out of what sterling stock the apple is born. The resilience of the boughs is scarcely credible. A mere twig, some half-inch or less in diameter, will toss your great heavy ladder about as a wave shifts a ship, and you are powerless against it. When at last you have fixed the ladder and mounted, it is all you can do to shove the small branches aside. When you thrust your way to the top your ladder seems to be resting on nothing in particular ; and you discover that, if it is upright enough, you may rest it against the very end of boughs that looked unapproachable, though the best fruit grows there. It is no wonder, if an old apple tree is felled, that the village carpenter comes to beg a log to make a beetle. He knows that he may hammer even metal with this stalwart wood.

To my taste, the apple of apples, at any rate for the picker, is the Blenheim Orange. The boughs grow big as on a forest tree. The best fruit hangs out on all the least approachable shoots ; and these swaying festoons

often take on a ruddiness, almost alien to the true colour, which is apple-green. No other fruit, except, perhaps, the Ribstone, boasts this same depth of shade, the very essence of health in an apple. Browning's advice is often wise :

Where the apple reddens,
Never pry—
Lest we lose our Edens,
Eve and I !

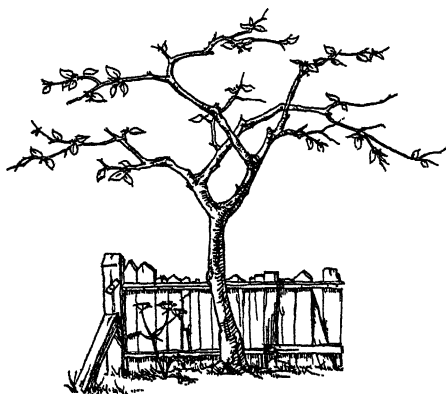
Where growth is retarded and crooked, or where the worm has penetrated, there inevitable redness ensues, though, of course, there is a redness of health as well as of disease, even in the Blenheim. It is as satisfying as—what did Lord Grey say ?—"a personal success," to secure a few heavy and heavily-tinted fruits from these upper peaks of a Blenheim. You may rejoice in your "right and left" on the ladder's upper rungs, as well as behind the hedgerow. And how agreeably difficult it is to secure a big pair that grow close together at the very end of your fingers' reach. And what grief when one tumbles to the ground and becomes no better than a windfall !

On the ladder you meet surprising companions. The red and punctured Blenheims were being hollowed out by hive bees. A curious tameness possessed the birds. Twice a cock chaffinch and a starling perched and stayed for some while, almost within arm's reach, as if they did not recognise an enemy at that altitude and among the boughs. At the top of the biggest tree were ants, and wherever two apples hugged one another, earwigs ambushed in the hollow by the stalk. Most garden birds have discovered the quality of the Blenheim. Every windfall is eaten quite out, and many of the softest fruits all about the top of the tree. There is a technique of

picking (as of pecking) an apple: you lift the fruit against the bent of the stalk and give it a slight twist; and the man "with good hands," as the riders say, can so tell to a nicety when a crop is ready to gather. But every tree should be picked over twice or three times, for the apple prematurely plucked never achieves flavour. It is, however, a deficiency in the Blenheim that it is so fast of its stem that you risk tearing away a whole twig. It seldom parts quite so sweetly as King Pippin, which, perhaps, has the best manners and poise of any apple in the list.

Little he knows of apples who only knows them on the table: and for this reason the market's order of merit is perverted. We may set aside such doctored and medicated flavours as are possessed by Irish Peach or half a dozen Americans, and such sugary softness as Worcester Pearmain produces at the tip of its leggy shoots. When we come to apples that *are* apples, the market elevates Cox to the stars. The old Ribstone, Ellison's Orange, and Orleans Reinette ought to belong to the same constellation; and their magnitude in some eyes is greater. That perfectly hideous russet D'Arcy Spice, which would ruin any stallkeeper's reputation, tastes nearly as good. Sir Charles Ross has been climbing rapidly of late and deserves its eminence; but the little-known Coronation is a twin star. It is a charmingly English fact that both descend from Peasgood Nonsuch. Blenheim is scorned in shows and on stalls because it is a rough, and often, one must confess, a spotted islander. Rival is a beauty, but owes something to its mere looks. Anyone about to plant a small orchard for domestic use will find in most classes of apple a number of more or less equal choices. Even Bramley's Seedling, which always bears and always keeps, has now a rival or two;

and this year it suffered surprisingly from hectic spots, due to early scorching. But first plant a Blenheim, partly because it is slow to come to the fruiting age, partly because it is unique. You must have a James Grieve—the yellow apple with the seductive scarlet streak—because of its middle date, and its fertilising value. For the rest with the early codlins, the late russets, and all these maincrop varieties, it will not very much matter which of several varieties you pick. But in a private garden, though not in a commercial, it is pleasant to keep many sorts: Early Rivers, Beauty of Bath, and Lord Grosvenor; Charles Ross and Coronation, both; the Allington Pippin and King Pippins; Lane's Prince Albert and Newton Wonder, apples green and apples red and yellow, old apples and new apples; only it is as well to avoid the market standard and conventional ideas of beauty.



NOVEMBER

*Obeying the Frost—Crow and Crossbill—Tools of the Trade—
The Countryman's November—The Fashion in Aliens—
The Pillar in our Landscape—The Finches' Secret*

I.

WE have seen a rare spectacle suggesting many problems. Trees, especially elms, in fresh green leaf have been frilled with deep hoar frost, as if summer and winter had lost all distinction. One of the daintiest details of a white winter frost is the silver edging it embroiders round evergreen leaves. What slender lines, like the gossamer thread of a spider's web, run from spike to spike of the holly leaf! The picotee edging converts every leaf into a sort of blossom. The hollies, with the yews and firs, are like flowers in a vase, set in the midst of the immense and pillared architecture of the leafless trees. They, too, bear patterned edges, not less lovely, but like filigree carving. This rare conjunction of a heavy October frost with a late and persistent summer compose a different school of architecture. The silvered domes of the elms are no more like either holly or bare-boughed beech than St. Paul's is like Westminster. A normal winter hoar-frost, strange and lovely beyond any phenomenon, is like a metallic spring. This autumn frost, clinging to a belated summer, is like a floral winter.

Some plants and some animals obey the clime, whether it is timeous or out of date, while others are bound to deeper and ampler movements: the orders

they obey are issued, not by little local accidents of warmth or cold, but by astronomical laws. Their guide is the low arc of the sun, not the chancey and fickle shifting of wind and cloud. This difference is perceptible in the inhabitants of the same region of natural history. Not least in the birds which are distinguished as the summer and autumn migrants. The birds that come to England to nest—nightingale, swallow, cuckoo, and the rest—come pat to the almanac. When they go, their places may be filled or may not : it all depends, not on astronomy, but on such little things as the incidence of frost. On the day that the elms were cupolas of green and silver, the meadows of a certain southern parish were populous with plover, green plover in one field and golden plover in another. At one time you might have seen green and gold flying in almost companionable flocks. The date of the appearance of the green plover depends each year almost wholly on frost. As soon as the thermometer falls to a certain degree, whether it be September, October, or November, you may feel quite sure that if you walk out towards the "Little Glebe" you will see, while still at a distance, atoms of white and black, as it seems, moving about the grass : the plover are feeding among the rooks on all the most deleterious grubs and flies they can find.

In the sequel, the place of the birds that go away in autumn is filled by those that come. Have we more birds in summer than winter ? Perhaps, though, it is a question not altogether easy to resolve ; but there may be a gap, there generally is, when arrival lags on departure. Indeed, it may be plainly argued that October or November is the emptiest period : the swallows and warblers have gone save some few stragglers or late-born

families, and the winter migrants have not yet arrived : the haunts of warbler and swallow are not yet filled with starling, plover, redwing, fieldfare, and brambling. The summer birds are more furtive and have better concealment. They are distributed in pairs here, there, and everywhere, marking out their " territories," and falling into silence as their numbers increase. Conversely, their successors are like the arrows of the Persians in number : they may darken the sun. Their hosts challenge attention as the nesting pairs shun it. Who shall take a census of either and compare the congregations with the pairs ?

Now, as it seems to me, these winter flocks, pouring into southern England, at the dictates of the weather, may be in the state of learning migration. Other species have learnt it so long that the memory is now inherited (whatever that means) and the habit bred in the bone. It may be that the starlings, just arrived and arriving in England, have definitely acquired the habit—not in an aeon of time—but in the few years since the war. Within that short period they have learned to roost in towns : and each year—such is the impression—they come over in rather greater hordes and more punctually. The " ringers " have at last found out just where the starlings come from—from Scandinavia, Germany, Holland, and neighbouring countries ; and we begin to gather precise information about the plover and larks and the more eccentric pigeons. All these come to us in great number in winter ; and to some extent join with the birds of the same species, sometimes also of other species, which have never travelled far and are held to be truly native. There is distress this autumn at the British Museum, where the starlings, returning for their remembered autumnal and winter roosts, found that the authorities had wired their

cornices and so interfered with the smooth course of a half-established instinct. But the rebuff will not check the habit ; and scarcely within memory have these southern and western migrants descended on us quite so suddenly. The severity of frosts, beheading a primrose summer, has brought them, for the phenomenon is bred of the weather rather than the motions of the earth. Folklore is full of migratory myths about swallows, storks, and cuckoos, but the starling finds no place.

2.

On one of the warmest and sunniest mornings of St. Martin's summer (a period recognised with thanksgiving in the Middle Ages and re-affirmed by the famous prophet Buchan) the rooks in "the high elm garden" were not only saying "Maud, Maud, Maud"; they were very active about the rookery. Some went into the nests as if they were already rounding out the circle with the pressure of their breasts. Their beaks were busy with the exteriors. Excitement ran high, and the several pairs were quarrelling with the robustious enjoyment of the early year. Quite certainly spring was active in their minds, and its various messages influencing their conduct. The nest-builders were "off before the pistol," heedless that they must be recalled presently by the stern arbitrament of winter. Has it ever happened that birds have actually bred in November or December? There seems no reason against the phenomenon, for many birds have laid eggs in the much colder months of January and February, and a duck or two in December.

Which is the earliest bird? Probably the one that catches the cone or the coney, rather than the worm. For though occasionally a robin or thrush may lay in

February or even January and the carnivorous raven lays her clutch at a date early even for the crow tribe, scarcely any other bird than the crossbill has established the custom of nesting in the early weeks of the year. We may now accept this strange and gorgeous finch as a British bird. Indeed, it begins to become almost a common bird. Bedfordshire claims it, as well as Norfolk and the North. It has appeared in the New Zoo; and the single spies about the counties are evidence of the presence of battalions in the favourite haunts. May we date its recognition as an established bird from the year 1932 when the species was selected as the subject of their coloured Christmas card by that pioneer body, the Norfolk Naturalists' Trust. A very splendid cock bird obligingly sat for the artist of the Trust. He set himself on the salient spray of a Scots Fir with the light on his ruddy front, while the secretary of the Trust gazed in wonder and gratitude at bird and painter. The picture helped to pay for the purchase of the most restful and perfect of all the English bird sanctuaries, the charmed circle of Alderfen Broad.

We may confidently expect that the continued afforestation of great areas of Norfolk and Suffolk, as well as of many private estates here, there, and everywhere, will further encourage the crossbill, though he is not greatly beloved of foresters. It is one of the most amusing of all birds to watch, and in some ways, easiest, for it prefers to dwell in colonies, and is naturally tame, or at least, so self-absorbed, that it forgets to be shy. Certainly it is the most curious of all our birds, in habit, as in structure. It is one of the only species, so far as I know, that definitely colonises new territory. Its migrations are not necessarily seasonal in any sense, and it does not follow the common law that migratory birds nest, and sing, at

the northern limit of their migration. One day a colony goes forth, like bees from a hive, finds a congenial grove, and there settles down, perhaps for good and all, perhaps only for a season. No man can conjecture whether the numbers will be many or few in any year, whether the birds have come to stay or come for a visit.

The species has always belonged to the North, and we must suppose that its queer, and you would think, awkward, beak had been evolved for the special purpose of levering open the tough cone that holds the fatty seeds on which the northern dweller especially delights. Both the criss-cross beak and the deep, red colour that suffuses breast and head, have attracted the wonder of northern people for many hundreds of years. The *locus classicus* is Mosen's German hymn re-expressed—very badly—by Longfellow :

Stained with blood and never tiring
With its beak it doth not cease,
From the Cross 'twould free the Saviour,
Its Creator's son release.

And the Saviour speaks in mildness :
Blest be thou of all the good !
Bear as token of the moment
Marks of blood and Holy rood.

But the colour and the pincers are not greater oddities than the bird's passion for nesting in mid-winter.

A bird that nests in an evergreen tree or bush need not, of course, pay the same attention to date as, say, a "nettle creeper," who must move with the tide of life, and time its passion to the rise of the sap in weed and bush. Perhaps the wild duck is early because the season of the waters anticipates the spring on the land ; and, maybe, the raven is a winter-breeder because spring is

first announced in any salient fashion by the massed flowers of the trees and the empurpling of the shoots ; for the bird is as fond of a tree as a rook. But, in truth, it is hard to find reasons other than native idiosyncrasy, which is no reason, for treating winter as spring. The times and seasons of the regular migrants are, of course, explicable. They must be true to the date when the bud and the chrysalis burst, or the insect-egg is hatched by the height of the sun. Our home birds are in different case, except that their young must be fed upon insect food. The earliest broods of mallard may die—often do die—from lack of such provision ; and how many thrushes and blackbirds lose their labour because they miss the advantage of a leafy screen between the bulky nest and prying eyes of boy, and owl, and squirrel ? The crossbill is almost alone in his consistent flourishing under such brave anticipation of spring and such disregard of the rising tide of life.

3.

Just outside the garden a noisy tractor has been dragging a two furrow plough, with shining disk-coulters to and fro across the landscape. The remnants of clover and sainfoin and evil weeds, such as dock, are as neatly folded as a baby in its bassinet. It would perhaps need more than all Browning's robustious optimism to find a "good gigantic smile" in "the brown old earth," for we miss the flowers that still blossomed and would have blossomed into winter, with the greenery about them. Flints and projecting roots are a grim alternative, though the tilth has a good pleasant healthy complexion none the less, and for a few days, till the unhoused insects vanished, was full of birds ; and there was a real satisfaction in

watching the rough yet precise folding of the earth by the almost primeval ploughshare.

Plough and scythe keep their ancient form, so does the spade ; and perhaps more of our garden tools than the historians appreciate : hoe and rake and pickaxe and cutting knives of all sorts, from the hooked sickle to the weeding knife that inspired Kipling—in this case successfully—to one of his fits of moral ecstasy. This last is the only tool of all tools that is better blunt. The joy of all tools is their brightness and sharpness, and in some the sharpness is all in all. The best mower that ever I knew—he was famous over half a province—spent an hour of every working day in tending his scythe, not only in whetting it—with the smooth fluid wrist of a painter—but in hammering it and tapping it. The time was well spent : the even sharpness of the weapon kept the mower's rhythm true and powerful and yet effortless. He breathed rhythmically with the stroke, as do all professional wielders of the felling axe. They know that the timing of the stroke is one with the timing both of the contraction of the lungs and the swing of limb and loin. The very heart that were else strained to its damage by the struggle rejoices and strengthens in the common labour. So it is with all tools, even the least, if they shine with sharpness and are duly swung in tune.

Between the field and the garden runs a myrobalan hedge, whose bushes had become almost trees. It has grown into what is known in the county as a "bullfinch." Is the hedge so called because the eponymous bird loves to build there ? Perhaps ; for in such a hedge when winter comes the sticks of the bullfinch and the mossy lichen of the chaffinch leap to the eye in the upper fringe, as the rough lumps of thrush and blackbird enlarge the top of the trunk on which the upper fringe

is based. Here as always it becomes necessary to curb the excessive aspiration ; and a hedge slasher (which the catalogues insist on calling an edge slasher) was procured for use by a prentice hand. It is a satisfying weapon ; and the slow discovery of the technique of its use gives the same sort of satisfaction as the learning of the scythe. It is a game of quarter-staff. The full swing is irresistible, if truly aimed. The downward blow delivered at the proper angle cuts a two-inch trunk as cleanly as a carpenter's chisel, and if there has been no check a backward flick will throw the felled piece clear. When you have done a chain or so you may look back at the rough but not so uneven line of cut trimmings as a mower looks at his swathe or a ploughman at his straight furrow. The least bluntness of the tool robs the whole art of its pleasure. The cuts are not clean, you must hack a giving obstruction and may be compelled to give half a dozen fussy pecks in lieu of the one clean blow, and thereafter release the tortured bough with importunate and irritated tugs. Keep your weapons bright for the sake of the worker as of the work.

The landscape of the garden has changed as eminently as of the wider fields. The rough border, some sixty yards in length, was a hedge, almost a wood of Michaelmas daisies up to seven feet in height. Their tall trimmings now smoulder on the vestal fire in which all gardeners take pride, and this place looks forlornly naked and miserably tidy ; but the gardener enjoyed his work as much as the wielder of the edge or hedge slasher. He cut the stems with a hedge sickle, for the sickle has two types, one strong and straight for the shearing of twigs, one lighter and cranked for the smoothing of grass. The extreme growth of the asters demanded the hedge sickle and with infinite trouble, for the sharpening

of a sickle defies the very elect, it was brought to a fine edge, and the plants were as cleanly cut as the bushes.

The good gardener is known by his tools, and the bad farmer by the rust on his ploughs and rollers. A tool house hung neatly with gleaming tools is as proper a sight as a kitchen dresser bright with blue-pattern china. Even a spade should feel the file: Horace's "labor limae" is the rule; but of all tools the saw best answers skilful tendance; and now with modern devices anyone may set as well as file his saw so that every tooth diverges by just so much and no more. It is a wicked business altogether against the spirit of the home or homestead, if the stroke sticks at the end of the push because the molar teeth, being less used, project overmuch, as happens with most saws; for the saw, especially the double saw, has as sweet a refrain as the scythe or axe, and to spoil it by bad or careless setting is as Plato's "sin in the soul," for the rhythm of its music is the cardinal joy of the countryman's labour.

4.

When the wind blows, when the air is "wild with leaves," when the tall trees swing and sway in rhythm, and little twigs of the ivy jerk in petulant gestures; when across the brown and slaty nimbus race brown and slaty clouds, like patches torn from the mass; when a curtained tree turns to a latticed window, through whose open pattern you may watch the angry skies; when fallen leaves drift under southern hedges like snow, and filter through to the cattle that have backed under the north-looking shelter; when "the clouds the clouds chase," and the rain can scarcely fall for the push of the south wind, that rattles closed doors and whistles their

chromatic scales through every crack ; when rooks are blown about the sky and gulls are tossed up and down like palm leaves at the will of the wind ; when the film of duck-weed is driven into a deep mass at the pond's edge and the lilies cannot keep their heads ; when even inland people, snug in some sheltered valley, think of waves that " pound upon the cliff " and drive the ships to harbour as the leaves to the hedge-foot—then we know that we have felt the very breath of autumn's being, that for the rest, though still the robin sings and the tall elms are green, we shall for many months inhabit a bare and open world, wonderful enough in itself for robust spirits, but a dead time nevertheless, alive only in its expectancy of resurgent spring.

The winds, a doubtless preface to a calm that will come, perhaps in time for St. Martin ; and his summer (symbolically coincident with Armistice Day) will belie in some measure the deadness of the months ; and a new mood will follow :

The wind flapped loose ; the wind was still,
Shaken out dead from tree and hill.
I had walked on at the wind's will.
I sat now, for the wind was still.

We shall already be looking for " anticipations of spring," like Gilbert White and the Markwicks, even though we " wallow naked in December snows," for this is part of the countryman's proper task, especially if he is also gardener. In a garden in France during the great gale of 1916 I watched for many minutes a tall elm heave and sway on the level platform of its roots, till at last the stability of the equilibrium was broken and the crash came :

Anon a sound appalling
As a hundred years of pride
Crashed——.

Over the echoes of the fall and the gusty shouts of the wind we could hear the boom of the guns, and, indeed, the shriek of falling metal from an anti-aircraft gun. It was at such a moment that the old French gardener (whose employer was serving in the ranks) took up his parable. "When the war is over," he said, "we shall make a salad of the politicians," and he rolled his hands over each other as if he were mixing the weeds with oil and vinegar—especially with vinegar. "They never think of what's coming," he continued. "Even a poor gardener is no good at all unless he is planning for next year and for the year after." To the gardener even the drifted leaves are a resort for future fertility, and he sees in wind-swept November the beginning of his busy year.

I found a parable on this theme one windy November day in London. The shade of a heavy-leaved plane had killed the grass beneath, and the ground was muddied on the surface by the rain, though singularly hard beneath. A bevy of men were driving innumerable holes in this uncongenial surface with iron bars, all blunt-ended, as every dibble should be. Into these new crocus bulbs, looking, as always, rather dead and dusty, were carefully dropped one by one. Each hole was just so deep and flat at the bottom for the better resting of the bulb, and the surer growth of the roots. "It will be a fine sight come March," said one of the gardeners.

The best story I know of the countryman's native gift of looking forward with selfless prescience to the future came from the mouth of an old Berkshire labourer. He said it to Mr. A. K. Collett, one of the best countrymen who ever lived, and whose premature death all English countrymen deplored, especially if they read *The Times*. Briefly, for I have told the tale before, he had been instructed one autumn to plant two lines of walnuts

and apples in certain positions. He reversed them, without orders, on these grounds: "I did think that when you and me was dead them walnuts would shade them apple trees," so he had given the apples their place in the sun for the sake of the next generation of man and tree. With such habits of thought and action as these we can hardly regard autumn as a dead season. Even if we do not enjoy wrestling with a gale, even if we hate the hectic leaf and the litter of its fall, and fear that the elms still bravely carrying their weight of leafage will therefore collapse and fall after their treacherous fashion, we may still plant our bulbs, and watch the growing catkins and see how green and fresh even in the town are the plane buds now that the queer sheath of the leaf—peculiar to this tree—is torn clean away. The wind is friend as well as enemy, especially in England, where we know little of cyclone (which is a wide circle of wind), or tornado (which is a narrow circle), or trade wind, which is a straight and regular wind (incidentally quite unconnected in derivation with commerce). Our worst winds for the most part are mild and gentle, and short-lived breaths, brushing off flimsy leaves, scattering seed broadcast, and with their rain crumbling the clods, an agent of health not of ruin. Their seeming havoc is no more than a hurrying of the preparations for the coming spring. "Shall spring be far behind?" Certainly not. It is already here. The wheat blades are clear of the tilth, and the crocus strikes root.

5.

The telephone bell rang one winter day, and an eager voice asked this strange question: "Can you tell us what has happened? There is a big bird strutting about

the garden with feathers all red and gold." It was not the red and gold of a goldfinch which is one of the only home birds that boasts these two colours in any salience. The red was so bright and ample and the gold so vivid that the owners of the garden, used to the modest hues of the gayest of our birds, rubbed their eyes, and almost wondered whether they saw aright. The bird was not "an escape," such as the American widgeon which appeared not long since on Hickling Broad and caused the very elect to believe or half-believe that a bird had flown the Atlantic (as, indeed, a few plover, though not duck, have been known to fly it). The bird proved to be a pheasant, let loose with many others, of as strange, as un-English a hue, in order to people neighbouring woods.

Ought we to welcome, even to allow, such importations into our well-balanced country, where, perhaps, the equipoise is truer than anywhere in the world, where no insect, bird, or mammal, and scarcely a plant, enjoys a licence free enough to interfere with the liberties of others? And that is the true test. Should it not be necessary to have a passport for any released creature, or pair of released creatures, since a muntjac will not be much of a danger without a muntjill! Should Lord Lilford have been allowed to people a countryside with little owls from Spain, or a Duke of Bedford or London municipality to cultivate a grey squirrel; or some commercial furrier to run the risk, which is not inconsiderable, of infesting our canals with the burrowing musk-rat? Such questions have, in fact, been put to the Crown and Municipal authorities; and quite differently answered. Up in the high elms that flank the main approach to the Zoo in Regent's Park have been appearing lately immense nests, the dreys of the grey squirrel, where they

retreat in foul weather, and hibernate for so long as their restless spirit allows and the cold compels. Near by, such wigwams are at once destroyed. The Crown has the humaner—is it also the wiser?—habit. Regent's Park is, perhaps, a natural battle-ground for the rival views, for, among the original objects of the Zoo was the naturalising of foreign creatures, among which at that date the Guinea-fowl was the most popular; and now that the Zoo has overflowed into the depths of the country the older idea is revived.

Now, we have always been hospitable towards exotics in most of the kingdoms of natural history. Recently we have added to the crime (as Wordsworth held it) of introducing the too-green larch, by experiments, not well justified, with the Japanese larch; and there are woods, "where no birds sing," so close and tall and thorny grows the Sitka spruce. The American monkey-flower overwhelms the forget-me-not on a hundred English streams and a thousand English ditches. Butterflies of Continental type flit over Norfolk wastes. There is a brisk trade in Hungarian partridges and Italian bees. It is perhaps not unlikely that Brush turkeys and other "plaguey wild fowl" will fly over the high wires of Whipsnade, and follow the wombat, who escaped by a lower route, into the pleasant woods of Herts and Beds. Our native rabbits are crossed with Belgian hares to give them more body and, what they do not need, more lustiness. The virtues of rainbow trout for our streams are being more vigorously canvassed than ever before. The barking deer or muntjac is abroad, very busy devouring the crops of market gardeners, and they demand its extinction. The grey rat, most destructive of all animals, is an importation, though an involuntary one, and we cry for its extinction in vain.

Of all importations, none at the moment is so popular as the pheasant, some of which are aliens and some come from nowhere. They are, if one may say so, faked; and since all sorts of crosses are known, it may well happen that our pheasants in general will lose that particular glory of colour which is their distinction. The two types now naturalised for very many years have become as good as native, though they came probably, one from the Caucasus, the other from Manchuria. How finely they seem to fit the autumn woods; and how strangely those more gorgeous colours of the cocks adapt themselves to the fallen beech leaves. If the leaves are deep and fresh, the crouching bird magically vanishes from sight. It is difficult for the engrooved Englishman to discover congenial beauty in the new vagroms: the Amherst who makes a noise like a piccolo, flies two feet from the ground, and expels all lesser neighbours. Reeves pheasant flies high, but looks like an aeroplane. Shooting becomes an unpleasant formality when "Melanistic mutants" and the "Japanese versicolors" advertise in their horrid names, dull colours, and straight flight the artificiality of their origin. We could well spare the lot.

6.

The elm is the pillar of English scenery. The "tufted trees," in which Milton's churches were "bosomed high," were elms. Tennyson's "black republic of the trees" was a rookery in an elm grove. Their tall trunks and upward-reaching boughs give majesty to a thousand midland scenes that would seem flat, unprofitably stale without them. The empurpling of the woods in spring, that gives our scenery what Lord de Tably called its "royal aspect," is brought about not

only by the return of the sap to bud and twig, but by the multitudinous flowers of the elms. When Robert Browning in exile thought of April in England, the picture that came to his mind's eye was "the elm-tree bole in tiny leaf." The elm carries the Golden Bough of our English folklore. It is true that the people say, "She hateth mankind," and "will wait ten years to drop a limb on your head," and is the wood of woods for a countryman's coffin. Yet all England loves the elm, though the commonest species is said not to be indigenous, because it ripens no seed and multiplies only by suckers.

We could ill spare our elms, but beyond all question they are threatened. Even the strongest trees may be strangely sensitive. The little green tortrix caterpillar can half kill a conifer largely by the mere fagotting of its needles with silken bands. In America great groves of chestnuts clean vanished within a year or two before the onslaught of the light and wind-borne spores of a scarcely visible fungus. Those great elms of ours, attacked by the Dutch malady that has spread northward from the Solent, perish within a summer season. They show the sere and yellow leaf in June, and when autumn comes the life is clean gone out of them. They have none of the resistant power of the oak, in some ways the very contrary of the elm. From sheer pride in its strength it thrusts out its arms horizontally, where the elm takes the line of least resistance. The green oak caterpillar may devour every single leaf, a blow heavy enough, you might think, to kill any plant that lives by the million mouths of its leafage. The oak waits till the caterpillars have become little moths, and puts out a second crop. The next year you would not infer that it had even been attacked.

What if this imported malady, spreading quite steadily, and now killing trees in thirty-three counties, should wipe out our elms? We have all seen the bough or trunk of a dead elm; and every country child has wondered at the strange pattern scooped into the wood and the under side of the bark. Its cause is a commonplace of natural history. The mother beetle tunnels a passage, lays her eggs, dies, it may be, at the doorway, blocking the entrance; and when her posthumous young are born, they eat their way out at right angles, and in seeking freedom loosen the contact of the bark with the wood. When the tree is dead some service is rendered by this insect and others. Is any corner in nature quite so full of life, principally of the life known as "creepy-crawly," as the underside of old elm-bark: centipedes, millipedes, earwigs, spiders, woodlice, sometimes ants and hibernating wasps seek nests and refuge there, and between them hurry the process of necessary decay. The wet bark and decaying wood are scooped and dibbled and pierced and tunnelled in every direction. Wood dust becomes mud, often held together, as fungus spores hold the soil, by the silk thralls of disused cocoons. Of all these, the master destroyer is the bark beetle.

This creature is now being accused, as rats were accused in the black plague, of carrying the disease that is destroying our live elms, as well as our dead elms, by carrying disease,

and with a little pin
Bores through the castle wall.

The threat may be mortal; but such a wholesale destruction as some fear is almost unknown in England, which is dowered with every sort of compensating balance. The grounds of hope are firmer than the slough of

despair. We have in Britain not one sort of elm, but half a dozen : the wych elm is the most distinct, but there are also many varieties, one of which is the so-called Irish elm. Some of these elms bear fruitful seed, though the seedlings are not very common ; and it is perhaps unlikely that this Dutch malady will have a deadly effect on more than one sort, but in this investigation is still necessary. Every practical countryman knows how the wood of different elms varies : in colour, in grain, in endurance ! All sorts are a little out of fashion at the moment, as happens always in years subsequent to a great gale, and the wood is now altogether unsaleable in many districts. And yet an architect of my acquaintance, desiring a solid elm staircase, failed altogether to procure the wood ! The wych elm, at any rate, holds its repute ; and it would perhaps be a good thing, for everything but the scenic effect, if this species survived at the expense of some others. It is not for nothing that it has earned the honourable name of the Huntingdonshire oak. As a post it has some of the virtues Cobbett found in the acacia, and it makes a handsome tree. One I knew that a neighbour frequently exhibited to his visitors as “ the oldest oak in the county ” ! and it was not till the twentieth year or more of his showmanship that someone suggested that his oak was after all an elm !

7.

“ We keep the finches stirring along the hedgerow side,” wrote an early and ardent apostle of the bicycle, to whom this most common of sights along a country road was first revealed by his new experience. If he had followed Jefferies’ advice, to “ get over a stile ” at every excuse, he would have found large numbers of finches

in the stack-yards ; and these birds are peculiar, or nearly peculiar in their winter congregations : they recognise the tribe, as well as the species ; the sorts mix ; and, what is stranger, the winter visitors from the continent will join with home birds of another species, so long as both are finches. For example : I used to visit a particular stackyard in a rather lonely farm where greenfinches and siskins, birds else strange to the neighbourhood, would constantly resort in company and obey the same signals. Of all observation posts a stackyard is the best if you wish to see this tribe ; and there best you may make enquiry into the secret of those quick concerted simultaneous movements that some have credited to a sixth sense. The birds swoop down and begin to feed greedily. Presently every bird will rise at the very same instant. You might think that they had been shot up like spray from a wave broken on a cliff. Never once has any observer that I know of detected any sort of signal or noted that one bird rises first and the rest follow. The movement is as simultaneous as the vibrations of two wireless sets. Generally you can discover no cause ; and if there is any noise or scent it must be too small, you would say, to produce so general, so instantaneous, an alarm.

What comes over the birds in winter ? In spring and summer they are intensely individual, pugnacious, and faithfully affectionate. In winter they appear to put off their old instincts, as some of them put off their spring plumage. They feel an irresistible impulse to collect into masses, in some species to collect into exclusively male and female companies. Is not the Latin name of the best known of all the finches "bachelor" ; and though he is supreme in nest-building and his song "on the orchard bough in England now" was taken

by Robert Browning as distinctive of home in spring, the chaffinch is not less remarkable for his male congregations in winter and his association with other finches. We know why birds do not breed out of season, but have no idea why they flock. The common suggestion that it is for the sake of finding food is quite certainly a conjecture and carries little appeal to reason.

May an approach to an explanation be suggested? Quite certainly massed birds come into possession of a new spirit. We have all watched, with a wonder and admiration that never flag, the wheeling manoeuvres of starlings. They may shift the evening light so suddenly that the whole company of many hundreds appears momentarily to vanish into thin air, and to be reborn again as the new movement opens. How is so synchronous a unison at all possible? Sound is slow. A drill master's voice could hardly cover the space quickly enough to command such perfect obedience. No noise but the beat of the wings is perceptible; nor is any sign, any leader, to be detected. Joy in common action, so mystical as to need no outward expression, informs every exultant bird effectually enough to conquer the handicap even of time and space. Life then and there is an ecstasy, and no one can doubt its intensity, if pleasure, as Grecian philosophers tell us, consists in "the free play of life."

How this common-sense, so to say, is reached, passes apprehension. Perhaps the secret is no deeper than instantaneous sense. A being so quick and vital as a bird, may attain a speed of perception much too rapid for us to follow; but, even so, we may hardly account for the unanimous prompting, for the obedience to an order that no single sergeant delivers or has any authority to deliver. Mr. Selous with his sixth sense may be right. Perhaps we may gather more evidence presently, for the zoologists

of Manchester are making a census of starling roosts. It is likely that a host of special observers will be engaged ; and the patrol of the starling, not less marvellous than the rising of the finches, may be due to a like gift. And both tribes gather into congregations—may I suggest?—from a premonition of the new senses that the presence of the flock engenders.

Among the finches are little groups as well as big. A neighbour's garden has been often noisy with the clatter of five or six hawfinches. The one compensation for the thistles that flourish more on an alleged farm is their attraction for the daintiest, loveliest, and most engaging of the whole tribe, the little red, white, and yellow goldfinch. I suppose the devouring of thistle seed, however pleasant, is a rather dry and dusty avocation, for the surest find for the goldcrests, at least in my experience, is the edge of a shallow bay in the brook. The birds drink as greedily as a hippopotamus. The bullfinches, much more apparent now than in the summer, are peculiarly faithful to a particular high hedgerow or two, where they gleam as brilliantly as little parakeets in the November sun. In Norfolk there are some who know yet more surely where to find the flocks of our latest acquisition in finches, the ingenious crossbill, but, unlike the bullfinch, he grows a little duller in hue after nesting, and the evergreens that he loves are apt to conceal his glories. In the South we must wait for colder days to see the congregations of bramblings, whose common-sense, in another interpretation of the phrase, drives them in winter multitudes to the stubble-fields of the Home Counties.

DECEMBER

*Vagrom Aliens—A Murmuration of Stares—The Big Birds’
Return—Christmas Food—The Birds of St. James’s—
The Hungriest Animal*

I.

TALKING down the ride of a winter wood in one of the Counties that are fondly called Home, I heard a liquid bubbling note, altogether foreign to my ears. It suggested a rather hoarse piccolo. It seemed to me half domestic. If it had been harsher it might have come from a good-tempered guinea-fowl, which, incidentally, was one of the first birds introduced to England for the definite purpose of naturalisation. I stalked the noise successfully; rubbed my eyes, and felt almost as astonished as the policeman marooned by Mr. Pycock in one of the wittiest of Kipling’s short stories—and for the same reason. Could this be England? A bird—if bird it was—ran through the undergrowth with a swaying rhythm that disclosed its various brilliances, even in that chequered gloom. The tail, adorned with black and white transverse stripes, was at least a yard in length. It curved in graceful line that an Aubrey Beardsley might envy. Round its neck was a wide hood of like colour and pattern. From its small neat body shone out many patches of peacockian greens and blues, here and there crossed by stiff brick-red feathers, suggestive of a Red Indian’s headgear. Presently some two yards of tropical colour disappeared into the homely brown of English bracken.

This strange spectacle was little more than a prelude to the experiences of the next hour or two. High over the trees flew a creature as gorgeous as the wild peacocks that plane from the foothills in North India. A tail, or train, of quite inordinate length, gave it the appearance of a fallen comet. The small but bright star of its body and wings trailed a cloud of glory from its native home. Later the woods revealed, or "half-revealed and half-concealed," earth-creatures as well as air-creatures. The first bird's rippling note was answered by a sort of grunt, and out of the rustling bracken danced on light feet a four-footed creature above the size of a big dog-fox; but in lieu of the long white-tipped brush all you could detect was a short ruddy scut, scarcely bigger than a rabbit's. The animal thrived the wood as easily and quickly as the native hares and rabbits. All this was passing strange. What in the world had happened to this England?

The key to the problem was not really difficult to find. The first creature,

Half-angel and half-bird,
And all a wonder and a wild desire,

was an Amherst pheasant. The second a Reeve's pheasant, and the third a Barking Deer, similar to the Muntjac, if not identical. They had all been enlarged on the immense neighbouring estate, chiefly used by that enthusiastic naturalist, the Duke of Bedford, as a sort of open-air Zoo. Strays from Woburn begin to spread more widely abroad. I have seen the Muntjac thirty miles away. As for pheasants, the varieties are now so many that at some shoots, when the dead birds are laid out in lines, it is difficult to find two birds alike. What with Melanistic mutants and Japanese versicolors and the rest, even the

natural history knowledge of a Beebe (who spent years studying the whole tribe in and about China) would be put to a serious strain.

The wisdom of what may be called a policy of enlargement, of the free naturalisation of aliens, has been questioned elsewhere. A number of people now sow and plant alien flowers in wild places. Persistent experiments have been made and are being made to introduce foreign varieties of butterflies, such as the Great Copper and Swallowtail. Though these were English species, the imported cocoons are often of alien varieties. Even the rivers are not free from introductions. Now at different dates I happen to have lived in the neighbourhood of both Lilford—where some of the first pairs of little owls, imported from Spain, were let loose—and of Woburn, from which, among other places, scores of grey squirrels, of American origin, spread abroad through the length and breadth of England. I do not know whether by now some have not reached Wales, or even Scotland. The successful naturalisation of the squirrel and the owl is an unmixed evil, and it appears to be incurable. We are saddled for all time with two aliens who prey upon our native animals. They will not perhaps do the harm that our importation of the rabbit, the fox, the sweetbriar, the bramble, and the earwig have done in Australia and New Zealand ; but many a garden has been robbed of all its nests and most of its fruits. Even the corn of the farmers is under attack.

In the field of botany almost all the importations, with rare exceptions, such as the American water weed, and possibly the mimulus, have been subdued to that they lived in. Half our trees and bushes are naturalised ; and a good many garden strays, such as the greater celandine, have become wild flowers. Our clime is like a “ gover-

nor" or the escapement of a watch : it regulates and prevents untimely multiplications. And people, after their first enthusiasms, eradicate the unsuitable. The sequoia, foolishly dubbed the *Wellingtonia*, has lost its votaries, and the Monkey Puzzle grows rarer. But naturalisation has great dangers : a mammal, a bird, an insect, a plant may de-English England ; and a lover of England sees the crime of high treason against the Majesty of his native scenes in the rash release of dangerous foreigners. Is he wrong ?

2.

If you want to see or hear the most multitudinous congregations of birds that England can show you will have no need to visit the country : London becomes a bird metropolis, and that rapidly ; but let no one suppose that any single town has a particular lure. This movement to the towns, that urban bias, is becoming world-wide ; and it is not easily explained, for the tendency is comparatively new ; at any rate, new enough to surprise. In the Iberian peninsula, which is in some regards a paradise for birds, an English visitor to Lisbon, Malaga, or Barcelona—to quote from personal experience—finds a curious attraction in the massing of the sparrows, and to a less degree of the swallows. When the lamps are lit in the squares, the companies of sparrows begin to arrive from all directions. The air becomes full of a various twittering that penetrates the monotonous weight of the traffic noises. Every bird, you would say, is giving tongue, as it strives to find a congenial perch on one of the too few trees. There is a shoving and a jostling that lasts for an hour or so. The weaker are elbowed clean off, and a large number perch several

times before they are finally allowed to settle down. It is a queer experience to watch the shadow of the trees thrown by high arc lamps. Every line of the delicate tracery thickens and bulges, till you have the silhouette of a serrated row, with scarcely a gap between the huddled forms.

In London you scarcely observe the sparrows at night time. Since the motors came they are less noticeable even by day than they once were. The master bird of London is the starling, if the sparrow is excepted. The species, wherever found, gives the most marvellous example that anyone can quote of the love of congregation, of the gregarious habit. Their wheeling hordes arrest the gaze of East Anglian labourers over the wide spaces of that thinly populated region ; and should you journey from there as far west as you can travel, you will scarcely miss their flocks along the route, and at the end will surely find immense army manoeuvres in full course between the spacious tower of St. David's Cathedral and the grove of the Deanery trees. But neither in the East nor West can the multitudes compare, I think, with the assemblages in London at the roosting hour.

A few years ago, when this urban bias began to express itself, the curious Londoner used to visit St. Paul's or the British Museum for the sake of the spectacle. It was a good show, like trooping the colours. To-day the flocks, much bigger than ever before at these centres, descend also on small squares and groups of trees throughout London. For myself, I never so felt the onomatopoeic aptness of the old phrase, "a murmur of stares," as in the neighbourhood of the Savoy Chapel. You might fear that the clamour might disturb the B.B.C. at its work. It might be broadcast as easily as

Big Ben. Someone published the other day a musical interpretation of the prevailing note of traffic in various capitals. What notes do the London starlings strike and what the Lisbon sparrows? It is a kaleidoscope of noise composed of many bits that seem to fit into a succession of patterns, different but allied. The starling's syrinx has a wide compass. The bird is a born mime, can imitate precisely almost any bird you please; and, in addition, it practises that curious and unique trick of clattering the mandibles which Tennyson, who always took most praiseworthy pains to discover the most accurate comparison, called clapping their castenets. But the noise the roosters make as they fill the cornices and niches of St. Martin's or St. Paul's or the Grecian slabs of the British Museum is just ejaculatory talk and gives out the note of the herd.

Is there any doubt that these London starlings multiply each year? In some foreign towns birds of prey have been attracted even to the more populous centres by the numbers of easy victims. It is seldom that hawks are not to be seen encircling the Gothic spires of Cologne Cathedral; and one of the constant spectacles from the White House in Washington is the spiral manoeuvre of the buzzards, using the upward currents of air that American architecture encourages. But our London birds are without enemies; indeed, the starling everywhere is as safe from attack as if its metallic tints, unpleasantly harsh compared with the soft gradations of most birds' feathers, were as sure a safeguard as the "warning coloration" of certain unsavoury butterflies. The birds are among the invincibles, the insuppressibles, a class in which we include such things as sparrows, rats, horseflies, midges, twitch or *Poa annua*, and the bacillus of the common cold. What is the Metropolitan popula-

tion? It must approach the human population, and is certainly disagreeably great for those whose job it is to keep the exterior of our churches clean. We may say of the starling what Hood said of another church-lover :

The daw's not reckoned a religious bird
Because it keeps acawing from a steeple.

The multitude of starlings and their obstinate preference for a particular dormitory troubles countrymen as well as architectural caretakers. The flocks are peculiarly fond of some of the bird sanctuaries, as if in their hypocritical preference they felt the religious association of the word. They descend in especial force on the reed beds of the Cley sanctuary ; and, I understand, the expert enthusiasts of the Norfolk Natural History Society have given up the vain endeavour to expel them. The best method for those whose shrubberies or plantations are invaded is the explosion for several successive evenings of the common firework cracker ; but this is hardly feasible in a marsh or cathedral ! So, if we cannot repel the invaders, the best plan is to enjoy them ; and, for the fuller enjoyment, to read the description of their evolutions in White's " Selborne."

3.

One autumn day in Bedfordshire I picked up the body of a little hawk of peculiar grace of form and colour. It was a hobby, a bird I had never seen in that neighbourhood, though hobbies are not uncommon in Southern England during the summer months. The date was October 27, a month or so later than the hour when most of these overseas visitors have left us. A few days earlier, in Berkshire, I had watched a very large hawk

circling at a height so great that the bird almost vanished from sight when it crossed a patch of blue sky, though its kite-like form was salient enough when the background was billowy cloud of white and fawn. What species it was I do not know ; perhaps a buzzard. Earlier in the year I saw a merlin rise from her nest hollowed in the sand, and about the roots of the marram grass on North Devon dunes.

These casual experiences, with others that need not be particularised, confirm a growing impression that the tally of hawks, and indeed of other big birds, is increasing in England, as in Wales. We possess rather few big birds, and are therefore perhaps more fond than any people in the world of our kindly midgets. No "native companions," looking as tall as children, stalk about our paddocks ; nor do "whistling eagles" circle low overhead. We have no flocks of pelicans to suggest a fleet of clouds or dove-coloured ibis that trail above the trees over many Australian farms. We must journey to East Coast estuaries to find flocks of Brent geese, high enough to give us any parallel, or to the West to watch the more scattered barnacles. Eager naturalists have themselves never seen a golden eagle or the once-common goshawk, and we had come to regard the inland ravens as a rarity. For the big birds most countrymen have had to rely on rooks, blown about the windy sky, and the athletic pheasant, inhabiting too highly cultivated woods.

Certainly the big birds are returning. It was a prodigy when a solitary golden eagle appeared not long since on Ramsey—that proud high island off the coast of South Wales. The mate, thoughtfully provided for him (from the Zoo) by Captain Knight, came to a sad end from unknown causes, but it is not unlikely that the range may be extended even as far south as St. David's. All that

rugged and magnificent coast is now a home of big birds. Centuries ago, when hawking (not hunting) was the sport of kings, it was the right thing to say among the specialists that the best peregrine falcons came from St. David's Head. To-day, as then, the peregrine may be called a common bird thereabouts; and not only thereabouts. Last year I watched their regal flight, and here and there saw them feeding their young at various points between Aberystwyth and Fishguard. At proper intervals all along that rough, magnificent coast, nested this year quite a large number of ravens, and peregrines, and buzzards, with occasional choughs, considered to be virtually extinct in our island. More than this, the inland places begin to share in the wealth of the coast. Buzzards—and on the wing they are so splendid as to seem almost eagles—are very common indeed from South Devon, where I have watched their nests on the Dartmouth cliffs, all the way round the west coast, at any rate as far as North Wales. They are so crowded that under stress of competition they come further and further inland; and as many nest in trees as on rocks. Ravens are rather differently distributed, but are hardly less common, and they spread inland in more definite directions. They nest regularly nowadays in Herefordshire, a favoured county, in trees and, in one instance that I saw, chose a tree almost on the roadside and much lower down than a rook would venture.

It has been continually said that the owl, and hawk, and eagle, and raven have two mortal enemies—the gamekeeper and the egg-collector—the acquisitive oölogist, who often specialises in complete clutches, and not seldom bribes more gymnastic persons than himself to secure the prizes. Both classes grow rather less hostile, perhaps. Gamekeepers are fewer than they were

and more scientific. The death of the little hobby, for example, gave no pleasure to the local keeper. My own experience is that the very big birds do not descend to small prey. On the edge of a Devon homestead populous with poultry stands a grove where every year both buzzard and raven nest and have nested ; but never yet has either paid the smallest attention to turkey, goose, duck, or hen, young or old. Tits actually built their nest and brought up their young in the buzzards' nests. The young hawks were not securer in the concave than the great tits in the convex side. No hawk, except the sparrow hawk, is appreciably destructive of game, though individual birds of most species, even the kestrel, may become "rogues." At any rate, none is comparable with the imported little owl, with the imported rat which we call a grey squirrel, or the carrion crow and magpie. Live and let live. We may nurse our eagles and hawks back to life without suffering at all in particular interests. Probably the balance of nature will be the more stable. The dead hobby had just been feeding on a mouse.

It is not easy to make even an approximate census of birds ; but it has just been done with great thoroughness in regard to the heron, which in old England was specially protected for the sake of the hawkers. The heronries are known, with the number of their nests ; and in their neighbourhood we still enjoy the frequent spectacle of "old Nog" standing as still as a post and looking like a pillar of mist in the water, flying across the sky on the slow oarage of his immense wings. But in my experience more heron are killed to-day than at any time, perhaps because fishing is more popular than it has ever been. I have seen their shot bodies in Shropshire, Pembrokeshire, and Hertfordshire, and know that

they have been harried in Essex. It is one of the few big birds on whose behalf a policy of protection has failed. Doubtless they can do much damage. I know a large private pond, in Essex, that was quite cleared of fish by visitant herons, but they do not do damage of this thoroughness in river, lake, or brook ; and, like the otter (which a few fishermen deliberately preserve, for example, in Westmorland), it plays the spartan part of killing the weaklings. No native bird is an enemy to the community.

4.

“Happy homes and plenteous platters” are wishes we may seasonably extend to our horses and dogs, our cows and sheep, and to squirrels and birds, and yet not fear to be accused of a too saintly aping of St. Francis of Assisi. Food matters more in a northern country, to those creatures, at any rate that have not learned the gift of winter sleep, that cannot slow their pulse, depress their functions, and drug their animation. They so need food that we ought to help. It would be a pretty practice if we adjourned to the kitchen at a particular date to stir the Christmas pudding for the beasts and birds. No recipe need be invented, for our own Christmas pudding would have most of the ingredients they desire : nuts and fat and raisins with a cereal foundation, if the ignorant may presume a conjecture not verified by a reference to Mrs. Beaton. The birds have long ago been vouchsafed an opposite number to Mrs. Beaton in Baron Berlepsch, who designed a Christmas tree for birds, not indeed hung with lights and fairies, but plastered over the boughs with plums and nuts and seeds bedded in boiling fat. His book remained a classic of its sort, and has been translated into English.

Food is fairly plentiful in England in an open Christmas, and always Christmas trees are dotted along every hedgerow. The "gold and purple hedges" of autumn become the red and purple hedges of winter, but though berries hang in quantity, sufficient for all the berry-eaters, much more food is present than available. The holly berries are acrid till well softened by frost, and the rich earth has a barely penetrable crust even when no frost falls. For those birds that scorn hip and haw, ivy and holly, nuts and grass seed-heads, the ground is an almost necessary table. See in a frost how the rooks descend to the thawed and sunny side of any fresh mole hillock. Hark how jays, and indeed partridges, kick the fallen leaves broadcast, as one might lift a dish-cover to see what is underneath. There are some cottagers who set aside, as one of the recurrent ceremonials of Christmas, a quarter of an hour's digging of the soil in their poultry reserve, breaking the earth as gardeners break the ice on their fish-pond, in order to cast their bread upon the waters. Hens, however, have not the gift of returning thanks in the manner of the robin. Usually when we cast our charity upon the world, it is returned only after many days, if haply even then. The robins are much quicker in recognition. If we go into the garden with fork or spade and turn a spot of earth anywhere it is odds that within a few seconds a robin is at your feet. He knows the spade as a dog knows the gun, or a horse the red coat. Often the queer sharp gay little run of notes and the bobbing of the tail and head suggest the grateful excitement of a dog who sees you preparing his dinner. As a dog with his soft brown eyes, the robin with his beady eyes has watched your every movement, and as a dog expressed his companionable pleasure without reserve.

Most of us overfeed the tits and underfeed the rest ; and perhaps our greatest obligation—if one good turn deserves another—is first to feed robin, thrush, and wren, a most English trio. They are the three winter singers of singers, though the blue tit occasionally challenges them. They all sing you “out of winter’s throat,” and, it were well to notice, out of their own slender bills. You may always infer a bird’s habit of food by its beak. The jenny wren’s is very thin and soft, and though the robin will imitate the tits and even dig little bits out of a suspended cocoanut, its beak is ill-adapted to the tough meal. It is made for the soft-bodied insect and the small seed. The thrush eats the hips, and indeed almost any berry, but it can break nothing hard with that straight beak, and must use a stone when dealing even with so thinly-protected a creature as the snail. The wren finds living peculiarly difficult (though the long-tailed tits are more easily frozen), but my theory is that they find a certain compensation by approaching nearer to hibernation than other birds ; they certainly rest longer in warm places. Both for them and robins the food that does most service is very finely cut meat of any sort ; and how it wets their whistle, as nothing else !

The slender bill is almost as particularly adapted to one sort of feeding as two of the stronger beaks which of late have been brought close to the eyes of many of us. The crossbills (whose special Christmas cards have given the Norfolk Naturalists’ Trust over £100 for the purchase of a sanctuary) are even now, at this date, preparing to nest in fir trees in Dorset. Such a beak is only designed for opening the very crusty sandwich which holds the flat pine seed. Again, in the Home Counties are great numbers of hawfinches whose beaks gleam like spear points and help you, even at a distance, to identify this

king of finches, this cocothraustes with-a-vengeance, whose mandibles are as capable of crushing any seed as the snipe's of dibbling in the ooze.

It is a puzzle why many birds collect in large flocks as soon as food runs short. You would have thought that individual foraging was the wiser alternative. Is it possible that many feet and beaks make light labour? Where the starlings have been the grass is like a cullender; where the larks have been in the tilth, the earth is like a hen-scratch. It may be that the multiple attack opens up the supplies of the ground only less effectually than our fork discloses the worms to the watchful and grateful robin, that lord of individualists. It may be that many eyes—and the bird's supreme sense is sight—discover best where food abounds, and so the food stores are more surely traced and more methodically exhausted; but this is more likely to be true of finches and redwings than of larks, starlings, or packed partridges. These congregations (with the important exception of the partridges) we can scarcely feed. Our first obligation is to our garden birds, with the three December singers at the front of the queue.

5.

What rich and persuasive bits of country old London contains! It would hardly be a surprise to see the snipe zigzag against the chimneys of Eaton Square or the flocks of plover waver above the vanished marshes about the Albert Memorial. Duck and coot and moor-hen quack and croak o' nights on the waters of Battersea Park or the Serpentine, and the herons stand grey and still, knee-deep in the lagoons. The reeds rustle in the wind in St. James's, and against the lights the roosting pigeons in the Green Park show their dark silhouettes as bulkily

as any pheasant to the gaze of the rural poacher prowling his native woods on a night of full moon. The air is dark on December evenings with flocks of starlings that delight even in London's central roar; and the endless stream of motors along the Embankment between Charing Cross and Southwark Bridge is quite outnumbered by the wheeling gulls whose wild cries answer the hooting of the horns.

All this, and much more, is common experience; but not till lately, after spending a part of an evening in St. James's Park, did I come to understand how extensive and peculiar is the company of birds within London parks. I sat once by a lagoon in mid-Queensland with an Australian naturalist, and without moving from our tree we counted some forty-six sorts of birds—duck in great variety, whistling eagles, swans, shag and many small birds. It was the most crowded panel of bird-life in my experience, not even excepting Hickling Broad. The likeness of the Rockhampton lagoon to St. James's Park was too close a parallel to be unrecalled, and by a freak of coincidence the chief bird-keeper of the Park put the number of species at forty-five (though some were not varieties) that swam and flew and quacked above and about those misty waters. Duck prevailed in both places; and of all the birds I saw long since in the wilds of Australia none seemed more peculiar to the place than the great white pelicans which all the world also associates with the islands behind the Horse Guards.

A London park is, of course, artificial; but so is the country. Every yard of it acknowledges the happy hand of man; its surface, its lines, its spacing of wood and field. It is true that the cunning patches of reed and shrub at St. James's are of a more deliberate artifice, and these two score species of duck and waders have been



J. Dixon-Scott

SURREY LANDSCAPE IN DECEMBER

deliberately planted out and some few pinioned; but there are really wild birds too, and a Londoner may study even migration without leaving the town. Almost the other day, the many moorhen of St. James's were recognised by their distant cousin the landrail as he flew over on his return to the Continent. He was tired and probably hungry and walked straight into a baited trap set on the banks of the water. Moorhen at St. James's, as coot on the great reservoirs, notably at Staines, multiply beyond measure and for the sake of others are at times caught up. This rail, this corncrake, was found among the captives. It is always a wonder how this weak and reluctant flier, which is tired after a flight of some two hundred yards and seldom rises a second time, can manage the long migration, even if it is no further than Spain. This strange captive, which had rested at St. James's, flew off at once when released and, we may believe, topped the houses and rediscovered his route without mishap.

These "single spies" are a little difficult to explain, for migration at any rate is usually at least a semi-gregarious proceeding. Perhaps the explanation of their isolation may be found in London, where most of the carnal visitors seem to be solitary. Recent examples are numerous. A solitary greater-crested grebe spent several days on the lake. He would not have far to come. This gorgeous and dignified bird, once very rare, has multiplied magnificently and is particularly fond of London reservoirs. The solitary kingfisher that was seen there had perhaps a yet shorter journey, for he is a common haunter of the river reaches about Putney; but his migrations are eccentric and outside common laws. He does not so much migrate as appear and disappear. A solitary jay is a little hard to account for, since few birds

are more cunning in avoiding the close neighbourhood of dangerous man. But there he was, though his stay was short. Did each of these four birds—the corncrake, the grebe, the kingfisher, and the jay—just lose its way and descend on the first congenial spot that interrupts the under-scene of roof and chimney and street. The little grebe—a quaintly furtive bird—does not face the greed of the Whistling Duck, the Divers, the Pochard, the Mallards, and the crying gulls ; but enjoys the neighbourhood. Two pair of them last spring discovered the seclusion of Buckingham Palace gardens, and duly nested there.

The local preferences or migrations are often unexpected. In the country we expect to see the company of our home pigeons immensely increased by aliens when winter approaches. Why should many of the wood pigeon of St. James's, which are the true wild English bird, leave the park in late autumn ? And their numbers are always much lower in winter, though food is plentiful. The tribe seems to prefer Kensington Gardens before any other as a winter resort. Our own wild herons have a similar taste. Two sorts of foreign crane are among the newest additions to St. James's, and the darker pair are often mistaken by the public for heron ; but they are both bigger and tamer. Our own shy heron prefer Kensington or Battersea ; and in Battersea Park—that incomparable triumph of landscape gardening—they used to look as much at home as the many denizens of the Salthouse Marshes.

6.

The “hungry months” have earned such a name, or deserve such a name, not because animals are then in

danger of going hungry, but for the reverse reason that they desire and consume an extra amount of food. The hunt is up. Fox and badger may make for the hen-roost. The activity of the rats is such that they know their way under outhouses, henhouses, garden huts with a diligence that makes the work of a pair look like the work of a score. They dig down to what tubers are left in the ground, as the grey squirrels scratch into the tulips and daffodils, falsely pretending that they are hunting for their buried nuts. In their small way, our animals a little resemble the northern bears that hurry to lay up fat in their bodies that they may come safe through the days when they must surrender the vain hunt for successful sleep. So in a minor degree does the domestic hen.

In this December hunt for food, and this display of excessive greed upon its discovery, the birds have a full share. Indeed, if there were a competition for the best appetite, the animal that would be selected as the Gargantua would perhaps be the wood-pigeon. From the cold North-East great flocks have, as usual, descended upon our English woods and fields and gorged beyond the imagination of Rabelais himself. In the worst line, or at any rate the most musically cantankerous line, in English verse Browning asks the cacophonous question :

Irks care the crop-ful bird ?

Frets doubt the maw-crammed beast ?

The crop has certain advantages over the maw, and should certainly produce a care-free spirit in the wood-pigeon. Its crop will hold, and is made to hold, as many nuts almost as a mouse will store in an old bird's nest for its whole winter reserve. Under an oak a pigeon will swallow or half-swallow acorn after acorn with no apparent pause, till you begin to suspect a conjurer's

trick. To be quite precise, three dozen acorns, or about the same number of hazel nuts, have been found in a single crop; and an ordinary pigeon may be so puffed out as to look like a pouter. In some of the oak-woods of the Home Counties are now gathered flocks, each of many hundreds, all possessed by this overwhelming hunger. They give a spectacle very characteristic of the winter landscape as they rise at even a distant alarm, and career out of sight at a speed and with a vigour and impetus of flight beyond any bird's, unless it be the golden plover. The white feathers and "livelier iris" gleam distinctly in the sun even at a long distance. Can so gay and ethereal a creature really have swallowed three dozen fat acorns in half an hour and be carrying this undigested burden at such a dizzy height, a dizzy speed?

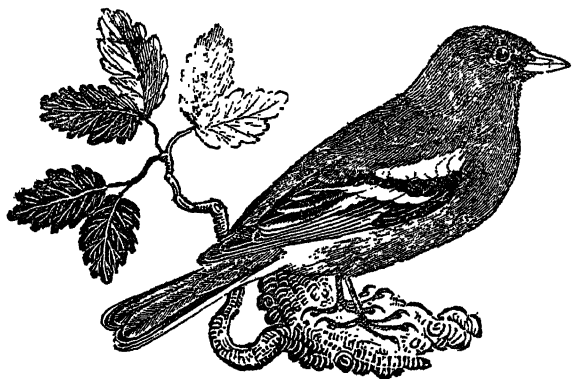
The collection of acorns has been the chief industry of the date, though (unfortunately) the human pig-keeping population has almost ceased to compete. Sometimes the store of a rat heaped up at the edge of his hole is raided by the pigeon, and, indeed, the rook. But the rook is a comparatively mild and reasonable feeder. He carries off the acorns one at a time and often leaves them uneaten in his favourite feeding ground; and thanks to this dilettante habit he should earn our gratitude for the great number of seedling oaks that spring up away from woods. The squirrels, both brown and grey, are the great sowers of nuts, for they bury and as often as not forget to unbury: and the thrush tribe—which include the fieldfare—chiefly spread the seeds of briar and the pips of thorn and rowan and holly, which doubtless germinate the more readily for passage through both crop and maw. These seeds, too, may be classed as "winged," differing from sycamore or ash or willow

herb in this, that their wings are not their own, but borrowed.

The wood-pigeon is a Samson among birds. Though the least bellicose (to use Horace's epithet), it possesses chest muscles of a weight and strength that may compare with the tendons of the wings of ducks. Doubtless the greed is a necessity born of the demand of muscles that alone make possible this magnificence of flight. No one grudges or even misses the acorns of the woods or the hedgerows, unless it be the game preserver who fears that his home pheasants are being starved of natural food by the hordes of alien pigeon. It is another story when the pigeons, tired of nuts and acorns or having exhausted the limited stores, begin to graze like sheep or geese on cultivated fields and gardens. They will shear a clover field as close as rabbits a bit of lucerne alongside their warren; and pick brussels sprouts as quickly as a market gardener. They enjoy the buttercup as much as the clover, perhaps more, for it possesses a satisfying bulb; and, as always, good qualifies harm.

How many animals start to graze when the months begin to empty of animals and fruits? The crops of the partridges are filled, only less full than the more elastic pouches of the pigeons, with the tips of grass and buttercup and daisy. Their diet has progressed through the year from insect through grain to green leaf. The wild geese may be said to chew the cud of the peculiar marshy and seaside grasses for which they crave. Even finches and sparrows and tits will indulge, to our despair, in grazing bouts, though they resemble rather the bush-loving goat than the grass-loving sheep. Their form of green food is the unopened bud. A particular gooseberry bush in one garden this week was beset by birds, and when they had finished it looked as if minutely cut

grass had been sprinkled under the boughs. The green tips were the relic debris of next year's flowers and leaves flushed out of every shoot. Why such a sudden "green rage" had fallen upon the finches, who can say? Chaffinches, tits, and, more rarely, sparrows are all liable to such untimely hunger. They are like a dog of mine that now and again displays a passionate greed for goose-grass or twitch. Do the birds, too, sometimes seek a medicine as well as a food?



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Erratum page 1 for 'Markhams' read 'Markwicks.'

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